

Florida

HEALTH NOTES



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DENTAL DECAY AND WATER FLUORIDATION

This issue of Florida Health Notes contains the complete official "Statement of the Florida State Board of Health on the Fluoridation of Public Water Supplies Following a Public Hearing on This Subject on August 20, 1955." This statement was prepared after careful study and review of all the testimony and evidence presented at the hearing by the opponents, as well as the proponents of fluoridation.

The official text is presented here in order that public health officials, city and county officials, school administrators, and interested parents will have a better understanding of the attitude of the Florida State Board of Health on this all-important public health measure.

Water fluoridation deserves a very high priority among the health programs in every community in Florida. The marked reduction of tooth decay by water fluoridation can improve the dental health and the total health of our future citizens at very little cost, without pain, and with safety and lasting benefits. Fluoridation, therefore, is recommended to all Florida communities.

Wilson T. Sowder, M.D.
State Health Officer.

Fluoridation

This is a different kind of issue of FLORIDA HEALTH NOTES. Usually we use photographs, drawings and diagrams, but this issue contains only the plain unadorned facts about *fluoridation*. We believe that the thousands of persons who read FLORIDA HEALTH NOTES should know more about fluoridation. The health of your children and your children's children may hinge upon this knowledge. Read this issue carefully. Lend it to a friend. Then keep this copy handy for reference when discussing the subject with others. If you want more copies, let us know. Be informed about *fluoridation*.

THE FLORIDA STATE BOARD OF HEALTH is obligated by law to acquaint the people of the state of Florida with each new advance in public health. Such an advance has been made in the generally accepted discovery that fluoridation of public water supplies does reduce dental decay. KNOW THE FACTS!



STATEMENT OF THE FLORIDA STATE BOARD OF HEALTH
ON THE FLUORIDATION OF PUBLIC WATER SUPPLIES
FOLLOWING A PUBLIC HEARING ON THIS SUBJECT
ON AUGUST 20, 1955
BACKGROUND

The State Legislature has directed the Florida State Board of Health to have a broad concern for all conditions which affect the health of the citizens of the state. Its first stated duty is "to formulate general policies affecting the public health of the State" (Florida Statutes 381.031 (1)(a)). Under the general direction of the Board, the State Health Officer is required to enforce rules and regulations relating to "the general health of the people of Florida" and to "cooperate with other appropriate state, county, municipal and private boards, departments or organizations for the improvement and preservation of the public health" (381.051 (3) and (7)). He is also directed to report annually to the Governor giving "recommendations for improving the sanitation of the state and the health of its people" (381.221). A witness for the opposition eloquently stressed

these broad duties by appealing to the Board as a group who "hold in the palm of your hands the health and the welfare and the future of the people of this great state of ours" (Dr. Marvin Smith, Miami). Specific authority is given to the State Board of Health concerning conditions or services which affect health and which involve communities as a whole. "The Board and its agents shall have general supervision and control over all systems of water supply, sewerage, refuse and sewage treatment in the state in so far as their adequacy, sanitary and physical conditions affect the public health" (381.261).

The Board of Health acknowledges and accepts the broad responsibility for conditions which affect the general health of the people of Florida, and for its more specific duties in supervising services which affect the health of communities as a whole. It emphasizes that the time has long passed since its sole or major duties were the control of communicable diseases, the improvement of sanitation and the abatement of nuisances. Its aims must include the promotion of health as well as the prevention of disease.

In the fulfillment of its obligations, the Board of Health has given critical study to the relative importance of various health problems. The widespread occurrence of dental caries was brought to the attention of the Board through general knowledge reports by Board of Health personnel and through study of extensive statistical data. Its significance in the impairment of nutrition and in increasing susceptibility to chronic debilitating infections was recognized. This clearly was a major health problem. The amount of dental repair needed was beyond the capacity of the dental profession in the state both now and for the foreseeable future, and its cost (when available) was beyond the financial means of many. The interest of the Board, therefore, was concentrated on possible preventive measures.

The Dental Public Health Program was planned following a critical study of a number of possible activities. The Board was aided in this by consultants designated by the Florida State Dental Society. Obviously the role of public health agencies in preventing caries through promoting dental cleanliness would be limited since "brushing the teeth" must be taught in the home and school. Any control of dental caries through modifying food habits would be attained slowly and with difficulty. The Board has tried to provide some individual prophylactic and corrective dental treatments to medically indigent school children but even a limited staff of dentists could not be recruited and maintained. The continuing effort of health educators, nutritionists and the dentists who could be obtained for public health work did not promise either immediate or effective control of this widespread health problem.

Another possible means of preventing dental caries was brought to light through national studies of the variations in the prevalence of dental defects in different communities. Investigations conducted largely between 1935 and 1945 established that these differences were related to the amount of fluorides in natural waters. In cities and areas with little or no fluorides in the water there was a high prevalence of dental caries, in those with excessive amounts of fluorides "mottled enamel" tended to occur but in those fortunate communities with an intermediate optimal amount of fluorides there was relatively little dental caries. This suggested a simple approach to dental hygiene through controlling the amount of fluorides in water to that level which provided the best dental health in the residents. There followed the widely publicized research on the effectiveness of adding fluorides where they were deficient in amount. On increasing fluorides to a level believed to be optimal, the same healthful benefits were observed in test communities as in other communities where an equal amount occurred naturally. The evidence at that time indicated that this was a simple, safe and reasonably economical public health approach to the control of dental caries. The dental consultants to the Board of Health recommended that this procedure be given major emphasis in Florida's program of dental public health.

On the basis of evidence then available the Board of Health in 1949 adopted a policy on fluoridation and clarified and expanded this on February 13, 1951. (Appendix A). This provided that when requested and authorized by the responsible governing officials and when the procedure was approved by the local medical and dental societies and the local public health agency the Board would approve fluoridation, provided there was specified expert supervision at the local water plant and provided the amount of fluorides was maintained below a stated amount. The level specified was materially below that occurring naturally in water supplied to Sarasota and some other smaller communities in Florida, and was at the approximate level of the fluorides in Jacksonville's natural public water supply.

Since fluoridation was a new program and since further scientific data on the subject has accumulated, the Board of Health readily agreed to review its policy. A public hearing was authorized and held on August 20, 1955 to allow both the opponents and proponents to present any new, or to reevaluate any old, scientific evidence which might have a bearing on the desirability, effectiveness, or safety of the fluoridation of public water supplies.

THE EVALUATION OF EVIDENCE

The verbal testimony presented at the hearing, the 23 exhibits offered by the opponents and the 77 by the proponents have been studied. Conflicting evidence was examined with particular care. The task of the Board has been to obtain from these varied reports the basic scientific truths which alone can be the secure guide to public health practice.

In evaluating clinical evidence we asked first about the dependability of the diagnoses. Cases considered to be chronic fluorosis, for example, were described by the opponents. Subjective symptoms were detailed. There was no confirmatory X-ray or laboratory evidence. An outstanding symptom was excessive morning weakness, a subjective reaction which could be due to any one of several causes. The physicians speaking for the proponents differed in the interpretation of findings in these cases. Lacking any supporting evidence to confirm a diagnosis the illnesses in such cases had to be considered as due to undetermined causes. Dependable diagnoses as to cause are of equal importance in dental studies.

The methods of scientific study are well known to those working in this field. A scientific investigation must be objective, without bias and properly "controlled". The validity of evidence presented was judged in accordance with the presence or absence of the above standards. Statements of scientific evidence must be specific also. In considering toxicity, for example, observations have virtually no significance unless the evidence specifies the amount of the agent consumed.

Dr. F. B. Exner, speaking for the opposition declared in his verbal testimony that in the reports of the studies made by the Public Health Service "facts have been warped, misrepresented and even fabricated". He charged that Professor A. P. Black's scientific publications contained "statements carefully designed to deceive". Furthermore, those who have endorsed fluoridation (including America's outstanding bodies of scientists) have perpetrated "what is probably the greatest and most elaborate hoax in history". The Board vigorously disagrees. The Public Health Service research has been acclaimed repeatedly by American physicians, dentists and scientists for its classical design, precise execution and sound conclusions. The Board has secure confidence in the integrity of the scientists concerned, individually and as a group. They note also that the dentists who have participated most actively in "perpetrating" the alleged "hoax" are those who stand to lose economically from the improvement of dental health which they seek to attain.

ABSORPTION, EXCRETION AND DOSAGE OF FLUORIDES

Doctor Exner repeatedly pointed to variation in intake of fluorides due to differences in individual consumption of water, as a major disadvantage of the fluoridation of water supplies. The proponents, however, introduced as evidence detailed data on the distribution of fluorides in food and water, and their absorption and excretion by the body. The amount taken in foods varies with selection. Sea foods, in general, have a high content of fluorides (commonly 4 to 10 ppm*). Meats (as steak, chops, chicken), butter, cheese and bread have a moderate level (commonly 1-2 ppm) while fruits and vegetables are variable (commonly less than 1 ppm). The amount taken in water varies with level and consumption. Of the fluorides ingested, a portion is absorbed, the remainder is discharged in the fecal waste. That absorbed is discharged in the urine and sweat. The fluoride level in the urine is closely similar to that in the water consumed. On drinking increased quantities of water, there will be an increased intake of fluorides, but promptly thereafter (within 1 to 3 hours) there will be an increased output of both water and fluorides through urine and/or perspiration. Even with an intake of two to three times that provided by an average diet and water with 1 ppm fluorides, the approximate balance of intake and output has been demonstrated by quantitative chemical determinations. Evidence of significant accumulation was obtained only when there was excessive intake. Experimentally "when F (fluoride) levels up to 50 ppm were given in a ration no skeletal changes were found." The Board failed to find any scientific evidence to even suggest that there would be, or had been, any abnormal or undesirable accumulation of fluorides with intake in a general diet and in water with fluorides even substantially above the level recommended for fluoridation.

FLUORIDES AND HEALTH

Every individual every day ingests some fluorides, since they are present in many foods in variable amounts and in water at least in trace quantities. It is acknowledged both by opponents and proponents that in excessive amounts fluorides have undesirable effects. Likewise, the substantial body of scientific evidence on the effect of a deficiency of fluorides in predisposing to dental decay was not challenged by the opponents. The Board, therefore, sought evidence as to the level at which a deficiency or an excess of fluorides was deleterious to health and the level which provided optimal health.

The Board notes the contention that fluorides added to water differ in their effect from those occurring naturally. Since irrespective of source chemically active fluorine occurs in water as free ions, and since one form

*ppm=parts per million.

of fluorine only occurs in nature the Board must agree with the proponents that this claim of a difference between natural and added fluorine has no basis in established scientific knowledge.

Their Effect on Dental Decay.

Two practicing dentists from Jacksonville, one representing the N. E. Florida Dental Society and one designated by the Jacksonville Dental Society, testified for the proponents. The dentists in Jacksonville (whose public water supply is naturally fluoridated with 0.7 to 0.8 ppm) have for comparison the native born children and those of families recently moved to the area from cities whose water contained little or no fluorides. Both dentists stated that the amount of dental caries was obviously less in children who had grown when or where fluoridated water was available as compared with those who had no regular access to such water.

The exhibits of the proponents contained also the results of detailed studies of children growing under these differing conditions. When dental health was related to the amount of fluorides in water it was observed that children and adults in areas with little or no fluorides in water commonly had two to four times as much dental caries as those in areas whose water contained one part per million or more of fluorides. In the United States at least 3,000,000 and probably 4,000,000 people use water naturally containing 0.9 ppm of fluorides or higher. There have been abundant opportunities to compare the dental health in these areas and in those with little or no fluorides in the water. In the opinion of the Board the evidence establishes that the dental health of individuals using water with approximately one part per million of fluorides is clearly superior to that of those using water with little or no fluorides.

According to the proponents, beginning in 1945 an increasing number of cities started to add supplementary fluorides where the amount in water was below the desired level. The results have been critically studied in several. Though the maximum benefits will be evident only when infants (born after fluoridation was started) grow to maturity, still already in city after city the evidence indicates a substantial reduction in dental caries. The same conclusion is indicated on comparing the dental health before and after fluoridation or on studying comparable cities, one with and one without fluoridation. The evidence convinces the Board that dental health is favorably affected either by the use of naturally fluoridated waters or by the supplemental addition of fluorides to community water supplies to the desired level. The accumulating evidence provides sound basis for the belief that the increasing of fluorides from a low level to about one part per million will reduce dental decay by more than 50 per cent. In the studies to date a reduction of 65 and 75 per cent has been attained.

The Board considered the criticism of the statistical measures used by the investigators cited by the proponents. It recognizes that the "DMF" (decayed, missing and filled permanent teeth) and the "def" (decayed, extraction indicated and filled deciduous (baby) teeth) add together the evidence of present and past decay. This appeared to them to be a reasonable means of measuring the total amount of decay—and a suitable indication of the relative dental health of a population. The Board would give careful consideration to alternative procedures had they been suggested.

Through findings in routine examination of school children the opponenets questioned the validity of findings in the Newburg-Kingston study. They sought to establish that there was no demonstrated benefit from the fluoridation of Newburg's water supply and even that it may have been deleterious. In comparing statistical data the scientist considers first their comparability. To be valid, observations must be obtained similarly. The proponents introduced supplementary information stating in detail the different methods used by the schools in obtaining a record of dental defects in these cities. In Kingston no trained dental worker was used. A physician inspected the mouth with the aid only of a tongue blade. Only obvious gross defects would be noted. In Newburg, however, a trained dental hygienist was employed for the school examinations and these she did with the use of a dental probe and mirror. Minor defects would be found and reported. Further, these highly routine general observations of school children differed markedly from the special dental examinations performed in these cities by the research team of dental scientists who used X-ray as well as complete dental observations. The latter, according to evidence presented, used every possible precaution to assure comparability of findings. To seek to refute these research dental observations obtained with the use of X-ray by the notations of the hurried observations of a school physician who glances at the teeth using only a tongue blade or even to compare the latter with the findings of a dental hygienist using dental instruments; suggests to the Board a complete lack of appreciation of the most basic principles in statistics and research.

In verbal testimony concerning Kingston the proponents presented convincing evidence as to the opinion in that "control" city. After the completion of the ten year study. Kingston immediately took the necessary steps to begin the fluoridation of its own water supply.

The Board is satisfied that the valid evidence indicates that fluorides at the level recommended for fluoridation have a marked effect in controlling dental decay.

Their Effect on General Health.

The proponents presented evidence from a "Long-Term Medical Study" of the health of children using fluoridated water (Newburg) as compared

with that in a nearby city with little fluorides in the water (Kingston). The findings failed to reveal that fluoridated water had either an adverse or a beneficial effect on general health.

Death rates were offered also to assess the possible effect of life-long exposure to fluorides at the level found in fluoridated waters or higher. Mortality data were determined for "paired cities", one with fluorides of 0.7 ppm or more and the other with 0.25 ppm or less. The total population of the cities whose water had a high fluoride content was 892,625 and of the control cities with low fluoride content 1,297,500. The average death rate for the years 1949 and 1950 were given. The findings were as follows:

Cause of Death	Deaths per 100,000 in Cities with	
	High fluorides	Low fluorides
Heart diseases	354.8	357.4
Cancer	135.4	139.1
Intracranial lesions	111.5	104.8
Nephritis	21.9	26.7
Cirrhosis of liver	6.6	8.2

From this evidence it was concluded that there was no statistically significant difference in the mortality rates in the cities with high and with low fluorides.

The Board considers these findings particularly conclusive since in one fourth of the cities with high fluorides, the level was above 1.4 ppm and in one of these above 2.6 ppm. Thus even with fluoride levels commonly above the maximum allowed in fluoridated waters there was no evidence of any unfavorable effect on general health.

Possible Harmful Effects of Fluorides.

The opponents emphasized the toxic manifestations of fluorides but consistently failed to indicate the amount required to produce ill effects. The proponents, however, introduced evidence that such symptoms occurred only with excessive intake, often in connection with the commercial production of phosphates. With heavy exposure, the latter, as is true of fluorides, are damaging to plants and animals but phosphates are known to be essential for the normal growth and development of both. The proponents emphasized that many substances needed by the body are harmful when taken to excess. Findings of this type for fluorides would be in line with other observations in nature.

The Board has reviewed critically the evidence concerning dosages. It found it was mechanically impossible for any accident in a water treatment plant to provide the high concentrations which could lead to an acute illness due to fluorides. In animals, growth retardation has been demonstrated

on feeding food and water with 100 to 1000 ppm fluorides. A search of the literature failed to reveal evidence of any observed unfavorable effect on growth of children as a result of the excessive intake of fluorides found naturally in some waters. Skeletal changes in adults resulted only on prolonged use of 8 to 20 times the recommended controlled intake in water and these changes did not noticeably affect their general health. Mottled enamel was the most sensitive indication of excessive ingestion of fluorides. Dentists speaking for the proponents stated that mottled enamel of varying types arises from different causes. Slight differences in pigmentation of well-formed teeth can be detected only by the experienced eye of the dentist; this questionable or mild mottling, whatever its cause, has no significance esthetically or to the health of the individual. The moderate and severe mottling with obvious change in the structure and color of the enamel began to be found only when the water had 2 to 5 times the recommended controlled level. The Board found no evidence of mottling of this type due to fluorides in individuals who had used throughout childhood a water supply containing approximately 1 ppm fluorides.

They found well substantiated evidence of the beneficial effect on dental health but could find no data to suggest any unfavorable effect on general health from water with fluorides at this level.

The Board has reviewed the clinical evidence of the cases of chronic fluorosis reported by Drs. Smith and Waldbott. Diagnoses were unsupported by confirmatory laboratory findings. It was stated by Dr. Waldbott that chemical analysis for fluorides were not done since chronic fluorosis could occur in those with little or much fluorides, an observation which does not conform with the general knowledge of inorganic poisons. There was no evidence that the diagnosis of chronic fluorosis represented the consensus of a group of physicians. Since the subjective symptoms could arise from a variety of causes, the Board must agree with the physicians speaking for the proponents that the causes of these reported illnesses were undetermined. They note also the testimony of Dr. T. Z. Cason that throughout his career (which was long and distinguished) as a specialist in internal medicine in Jacksonville, (a city with 0.7-0.8 ppm fluorides occurring naturally in the water) he has never seen a case in which a diagnosis of chronic fluorosis was warranted.

Unfavorable symptoms following the announced beginning of fluoridation were reported. The evidence offered by the proponents strongly suggest that these were due to other than fluorides. Repeatedly cities have added fluorides before the announced beginning of fluoridation, but complaints came only after the published beginning date. Others for technical or other reasons delayed the beginning of fluoridation, and complaints came

when the public was receiving unmodified water but believed that fluorides were being added. The Board recognizes that symptoms and complaints may be related to a fear of the unknown and even more so to a fear of a presumed danger. In the initiation of fluoridation of a public water supply, these fears rather than the fluoride content of water appear to be the cause of complaints.

The unfavorable effect of water with 1 part per million fluorides to those with other disorders as diabetes or nephritis as claimed by the opponents was weighed. The Board notes the conclusion from a detailed study published by the American Association for the Advancement of Science: "Even if all the fluoride ingested in the drinking water (1 ppm) in a lifetime were stored in the skeleton, no injury would thereby accrue."

The Board therefore concludes that the scientific evidence available securely establishes that fluoridation of water at 1 ppm has no deleterious effect on health at any age.

THE FLUORIDATION OF PUBLIC WATER SUPPLIES

Even if its effectiveness and safety have been established satisfactorily there remains for examination other factors related to the advisability of adding fluorides to public water supplies.

Since this procedure has been challenged on various grounds the Board must state its own reasoning on the matter. The importance of "trace elements" in the development and growth of plants and animals is common knowledge. The need for iron, copper, cobalt, iodine, and similar agents is acknowledged. To these essential trace elements fluorides may now be added. Experience has established that for all to obtain such elements which are required for optimal growth and health, they must be available so the individual obtains them without special effort, as through food, salt or water. In the case of fluorides it appears reasonable to follow nature's method and to make these available in optimal amounts in drinking water. The Board has regarded this as a simple, effective and appropriate method of increasing the healthfulness of a community's environment.

The Board notes the claim of the opponents that fluoridation of public water supplies is mass medication. The latter implies treatment of illnesses or defects. The proponents pointed out that fluorides have no effect whatsoever in the cure of dental caries, but the evidence does indicate that at an optimal concentration, it permits the development of a stronger enamel more resistant to dental decay. Beckman in his text "Pharmacology in Clinical Practice" emphasizes that "fluorine is essential for formation of normal enamel with a high degree of caries resistance". In line with this evidence the Board regards fluorine as an element necessary for optimal

growth and development, not as a medication for the treatment of an illness or defect.

The Board considered also the objection to "forced medication" as a violation of religious liberty. As stated above the control of fluoride level in water is not considered as medication. The objective is to improve the healthfulness of the community environment, i.e., to provide in each the healthful advantages that some communities have naturally. Jacksonville, for example, has a desirable level of fluorides in its natural water supply. The Board does not believe that any question of religious liberty is involved and the courts repeatedly have so ruled.

The legal right to fluoridate public water supplies has also been raised by the opposition. Natural water supplies are modified in several ways in the interest of public health. The proponents point out that the specific question of fluoridation has been examined already by the courts with all decisions upholding fluoridation. Illustrative of these is a recent one which came to the attention of the Board. It states as follows:

Kraus v. City of Cleveland,

Supreme Court of Ohio, June 29, 1955

Taxpayer's action seeking to restrain city from expending money for fluoridation of water supply. "The basic question presented by this case is whether a municipality has the authority under its police power, in relation to public health, to add inorganic fluoride chemicals to its water supply, where such addition will not and is not intended to have any effect on the potability, palatability or purity of such drinking water, but has for its sole purpose the prevention of dental caries". Plaintiff contended that the prevention or treatment of diseases of the teeth is a matter of private health and not of public health, and that the addition of fluorides to the water constitutes an invasion of his constitutional liberties to treat his health and that of his children as he deems best and of his right to be free from medical experimentation, and the right of freedom of religion.

The Court ruled against the plaintiff and stated:

"Liberty implies the absence of arbitrary restraint, not immunity from reasonable regulations and prohibitions imposed in the interests of the community. * * * neither an overriding public necessity or emergency nor infectious or contagious diseases are the criteria which authorize the exercise of the police power in relation to public health. * * * The relation of dental hygiene to the health of the body generally is now so well established as to warrant judicial notice. * * * Under our modern existence the law must change and expand with mechanical and scientific

progress. * * * Although it is true that the actual active effect of fluoridation is confined to that period of a person's life while the teeth are developing, such benefits extend on into adult life and fluoridation legislation is not such class legislation as to invalidate it. * * * There are dissenters to many established and proved scientific practices which are accepted today. Dissent to scientific method does not constitute such method an experiment, and the plaintiff's contention that fluoridation constitutes experimentation is without foundation."

Opposing witnesses suggested that alternative methods of applying fluorides for the improvement of dental health, such as the dispensing of fluorides to individuals, would be more economical. The lifetime cost per individual of the fluoridation of public water supplies according to the proponent's evidence is the approximate fee for one dental consultation with the repair of one moderate cavity. The opponents failed to provide evidence that any alternative procedure could be planned, administered, and controlled for this limited cost. The effectiveness of methods such as dispensing fluorides would have to be demonstrated since for this the continuing cooperation of all families with children would be essential. The Board is interested in such methods since fluoridation of public water supplies even if generally applied would leave unsolved the problem of reducing dental caries in rural areas. Those opposing fluoridation as now proposed could make a very worthy contribution to public health through sponsoring an adequate study of alternative procedures.

OBLIGATION OF THE STATE BOARD OF HEALTH

The Board has broad obligations for the protection of the general health. It recognizes an urgent need for the improvement of dental health. The advancement in the past two decades of the knowledge of the means of partially controlling dental caries is considered by the Board of outstanding importance. One method of effectively applying this knowledge has been proposed, tested and found to be safe and effective. Alternative possible procedures have been suggested by the opposition. Before these can be recommended, however, their effectiveness and applicability in a public health program must be demonstrated through prolonged large scale trials. Until this is done, the Board of Health can meet its obligations only through the use of the best methods known for the protection and improvement of the public health. In the opinion of the Board, the most promising method now available for the control of dental caries is the fluoridation of public water supplies, and until other procedures are evaluated and found equally effective or superior, the Board of Health must both authorize and recommend its use.

While the Board has reached its own conclusion from its knowledge of the scientific evidence available it has been amply reassured as to the accuracy of its opinion by the recommendations concerning fluoridation by the outstanding organizations of scientists. A partial list of the national bodies which have formally endorsed the controlled fluoridation of public water supplies includes:

- American Medical Association
- American Dental Association
- American Public Health Association
- American Pharmaceutical Association
- American Nurses Association
- American Association for the Advancement of Science
- National Research Council
- National Institute of Municipal Law Officers
- American Water Works Association
- American Hospital Association
- U. S. Public Health Service
- National Congress of Parents and Teachers

THE BOARD OF HEALTH POLICY ON FLUORIDATION

The present stated policy of the Board is for the local community to make its own decision regarding fluoridation of its public water supply. If fluoridation is endorsed, the Board retains the responsibility of assuring that it is controlled properly at specified levels. A qualified supervisor of the water plant is required to make chemical tests daily by a prescribed method and to send to the Board of Health Laboratories at first weekly and later monthly samples for check examination. (These tests have revealed a very exact control of the level of fluorides in fluoridated public water supplies.) The Board is convinced as to the desirability of fluoridation and knows of no more democratic and fairer method of sharing responsibility with the local communities for this program. No original observations or new data were presented by the opponents which established a need for change, and the proponents have provided data which strongly reassures the Board as to the justification and need for its present policy. It therefore reaffirms its established policy.

Statement approved and issued by the Florida State Board of Health, October 30, 1955.



EXHIBITS

Listed below are the exhibits submitted at a public hearing on the subject of fluoridation of public water supplies held by the State Board of Health on August 20, 1955 in Jacksonville, Florida, (or within ten days after that date).

Only one copy of each exhibit is available in our files but references are given so that much of the material may be obtained from the scientific journal referred to. The State Board of Health cannot take the responsibility for obtaining copies of this material.

PROPONENTS' EXHIBITS

- Exhibit 1—Letter from John G. Traver, Jr., DDS, President, Northeast District Dental Society to Dudley L. Reep authorizing Dr. Reep to represent Northeast District Dental Society at Hearing
- Exhibit 2—Chronic Illness Newsletter, Volume 5, No. 4, April, 1954
- Exhibit 3—List of National Health Organizations which have passed resolutions favoring fluoridation
- Exhibit 4—List of major cities in the United States which are now fluoridating their municipal water supplies
- Exhibit 5—Letter from Dr. Harold B. Pattishall, Jr., President, Jacksonville Dental Society to Florida State Board of Health introducing Dr. Charles J. Hester as official representative of Jacksonville Dental Society
- Exhibit 6—Fluoridation Facts—published by American Dental Association-Council on Dental Health, April 1954
- Exhibit 7—Report on Fluoridation of the Public Water Supply by Portland City Club Bulletin
- Exhibit 8—Letter of authorization by Dr. A. P. Black (Head Professor of Chemistry, University of Florida) to appear at Hearing as official representative of American Water Works Association. (from Harry E. Jordan, Secretary AWWA)
- Exhibit 9—The Fluoridation of Public Water Supplies—American Water Works Association Bulletin—AWWA B700-49
- Exhibit 10—American Water Works Association statement of Policy regarding fluoridation as adopted by Board of Directors on June 12, 1955
- Exhibit 11—Facts in Refutation of Claims by Opponents of Fluoridation by Dr. A. P. Black, Journal of the American Dental Association, Vol. 50, pages 655-664, June 1955
- Exhibit 12—List of some common chemicals used in water treatment
- Exhibit 13—List of addresses made by Dr. A. P. Black on subject: Fluoridation of Public Water Supplies for the Control of Dental Caries
- Exhibit 14—Memo from Dr. J. M. McDonald re: Fluorides
- Exhibit 15—Newburgh-Kingston Study

ADDITIONAL EXHIBITS OF PROPONENTS

Added from files of State Board of Health
10 Days after Fluoridation Hearing
on August 20, 1955

- Exhibit 16—Weekly Health Bulletin—Connecticut State Health Department—Vol. 37, No. 29, July 18, 1955—"American Dental Association President Urges Fluoridation".
- Exhibit 17—Fluoridation of Public Water Supplies, Florida State Board of Health Statement of Policy, Revised February 13, 1951
- Exhibit 18—Report of Court Decisions in 11 States (all favorable to fluoridation)—American Journal of Public Health Vol. 45, No. 6, June 1955
- Exhibit 19—Studies on Dental Care Services for School Children—by George E. Waterman, DDS, and John W. Knutson, DDS, Dr. P. H.—Public Health Reports, Vol. 68, No. 6, June 1953
- Exhibit 20—Importance of Fluoridation as a Public Health Measure—by Dr. J. C. Bouillon, DDS, M.P.H., Bulletin d'hygiene, Montreal Health Bulletin, Vol. 39, No. 3, 1953
- Exhibit 21—Fluoridation Policy of State Board of Health prior to March 4, 1949
- Exhibit 22—Research Dramatizes Need for Fluoridation—Summary of the Dental Caries Experience of the Children examined in the Dental Study of 21 Iowa Cities, 1953—Journal of the Iowa State Medical Society, Nov. 1953, pgs. 484-485
- Exhibit 23—Domestic Water and Dental Caries—A study of the fluoride-dental caries relationship in an adult population—by Drs. Russell and Elvove—Public Health Reports, Vol. 66, No. 43, October 26, 1951, pgs. 1389-1401
- Exhibit 24—Medical Aspects of Water Fluoridation—Canadian Journal of Public Health, September 1953
- Exhibit 25—Fluoridation of the Public Drinking Water—by Drs. Summers, Stringer, and Stanley. Journal of the Michigan State Medical Society, Vol. 53, pgs. 1007-1016, September 1954
- Exhibit 26—Series of newspaper articles from Tampa Tribune, 1951
- Exhibit 27—Newspaper articles from San Francisco Chronicle and San Francisco News, 1951
- Exhibit 28—Fluoridation of Water Supplies—an editorial by George F. Lull, M.D., Secretary and General Manager of American Medical Association. Today's Health, June 1955
- Exhibit 29—Statement by Dr. George F. Lull concerning fluoridation of drinking water. Journal of American Medical Association, Vol. 147, No. 14, June 12, 1954
- Exhibit 30—Statement of Council of Pharmacy and Chemistry of American Medical Association on fluoridation of water supplies. Journal of American Medical Association, Vol. 147, No. 14, June 12, 1954
- Exhibit 31—How to Live by Dr. Walter C. Alvarez (newspaper article), Jacksonville Journal, Monday, August 9, 1954
- Exhibit 32—Some Facts Concerning Fluoridation assembled by Dr. A. P. Black, Head, Department of Chemistry, University of Florida, Gainesville, Florida

- Exhibit 33—Effect of Fluoridated Public Water Supplies on Dental Caries Prevalence—by Drs. Arnold, Dean and Knutson (DDS). Public Health Reports, Vol. 68, No. 2, February 1953, pgs. 141-148
- Exhibit 34—An Evaluation of the Grand Rapids Water Fluoridation Project by John W. Knutson, DDS. Journal of Michigan State Medical Society, Vol. 53, September 1954, pgs. 1001-1006
- Exhibit 35—Medical Aspects of Excessive Fluoride in a Water Supply—by Drs. Leone, Shimkin, Arnold, Stevenson, et al. Public Health Reports, Vol. 69, No. 10, October 1954, pgs. 925-936
- Exhibit 36—Complex Fluorides: Caries Reduction and Retention by I. Zipkin and F. J. McClure. Public Health Reports, Vol. 66, No. 47, November 23, 1951, pgs., 1523-1532
- Exhibit 37—Fluoridation Keynoted at Dental Conference (annual meeting of State Dental Directors held in Washington, D. C., June 6-8, 1951). Public Health Reports, Vol. 66, No. 37, September 14, 1951, pgs. 1171-1175
- Exhibit 38—Fluoride Domestic Waters and Systemic Effects (in two parts) by McClure and Kinser
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- Exhibit 39—Studies on Mass Control of Dental Caries through Fluoridation of the Public Water Supply by Dean, Arnold, Jay, and Knutson. Public Health Reports, Vol. 65, No. 43, October 27, 1950, pgs. 1403-1408
- Exhibit 40—Public Health Aspects of Water Fluoridation by Herman E. Hilleboe, M. D., and David B. Ast, DDS. American Journal of Public Health, Vol. 41, No. 11, November 1951
- Exhibit 41—Fluoridation of Public Water Supplies—A paper presented on October 17, 1950, Southwest Section Meeting, New Orleans, La., by F. J. Maier, Sr. San. Eng., U. S. Public Health Service, Bethesda, Maryland
- Exhibit 42—The Safety of Water Fluoridation by Edward R. Schlesinger, MD, Division of Medical Services, N. Y. State Department of Health, Albany, N. Y.
- Exhibit 43—Investigations on the Metabolism of Fluoride by Frank A. Smith, Dwight E. Gardner, and Harold C. Hodge. Journal of Dental Research, St. Louis, Vol. 29, No. 5, October 1950, pgs. 596-600
- Exhibit 44—Fluoride in Florida Waters by State Board of Health Bureau of Sanitary Engineering, (samples analyzed since the 1934 survey). Revised Dec. 10, 1951.
- Exhibit 45—Statements Concerning Objections to Fluoridation published by Florida State Board of Health
- Exhibit 46—Report of the ad hoc Committee on Fluoridation of Water Supplies. Division of Medical Sciences, National Academy of Science, National Research Council, publication 214
- Exhibit 47—Current Status of Water Fluoridation Program by John W. Knutson, DDS,—presented at the 50th Annual Conference of the Association of State and Territorial Health Officers, November 26-29, 1951, Washington, D. C.

- Exhibit 48—Partial abstract of pamphlet entitled *Fluoridation of Municipal Water Supply—A Review of the Scientific and Legal Aspects*, written by C. S. Rhyne and E. F. Mullin, Jr., National Institutes of Municipal Law Officers, Washington, D. C. Report No. 140, 1952
- Exhibit 49—*Nondental Effects of Trace Quantities of Fluorine* by F. J. McClure. Reprinted from American Association for the Advancement of Science—*Dental Caries and Fluorine*, pgs. 74-92
- Exhibit 50—*Beneficial and Harmful Effects of Fluorine on Human Teeth* by John Lansbury, M.D. Medical Clinics of North America, Nov. 1944, Philadelphia number
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- Exhibit 55—*Queries and Minor Notes: Fluorine in Public Water Supplies*. Journal of American Medical Association 146:607, June 9, 1951
- Exhibit 56—*Editorial: American Medical Association Councils Report Favorably on Fluoridation of Water Supplies*. Journal of American Dental Association, Vol. 43, No. 6, December 1951
- Exhibit 57—*American Medical Association Statement: Fluoridation of Drinking Water Harmless*. Journal of American Medical Association, Vol. 43, December 1951, pg. 733
- Exhibit 58—*Waterborne Fluorides and Mortality* by Hagan, Pasternack, and Scholz. Public Health Reports, Vol. 69, No. 5, May 1954, pgs. 450-451
- Exhibit 59—*Non-Technical Abstracts of the Papers in the Symposium on Fluoridation as a Public Health Measure*. A.A.A.S. annual meeting, Philadelphia, December 28, 1951
- Exhibit 60—*Testimony of the Public Health Service, Department of Health, Education and Welfare, before the House Committee on Interstate and Foreign Commerce, in connection with Hearings on H.R. 2341*, May 25-27, 1954 by Drs. Knutson, Leone and Zipkin
- Exhibit 61—*Dental Protection in Your Drinking Water—by State of California Department of Public Health*, San Francisco
- Exhibit 62—*Why All the Delay on Fluoridation?* by E. Roy Hammarlund. Journal of American Pharmaceutical Association, Vol. XVI, No. 1, January 1955
- Exhibit 63—*Fluoridation as a Public Health Measure* by James H. Shaw, Editor. Harvard School of Dental Medicine. A publication of A.A.A.S.

Exhibit 64—Fluoridation packet of the Florida State Board of Health used for educational purposes containing the following:

- A. Fluoridation Facts: Answers to criticisms of fluoridation by American Dental Association, Council on Dental Health, April 1954
- B. Editorial St. Petersburg Times, Thursday, May 20, 1954
- C. Article from St. Petersburg Times by Tom Twitty
- D. Clipsheet of American Dental Association, "Fluoride Studies Cite New Gains"
- E. Science and Fanaticism: a report of the Hearing of the Weir Bill to prohibit fluoridation by Claire Danziger
- F. Toledo Blade newspaper article, Sunday, November 28, 1954—"How Sound is that Poison Argument against Fluoridation?"
- G. "A Study of the Anti-Scientific Attitude". Scientific American, Vol. 192, No. 2, February 1955
- H. Fluoridation Upheld by Court in Milwaukee Test Case
- I. Ruling by the Louisiana Supreme Court on Fluoridation
- J. Views of the National Congress of Parents and Teachers in regard to Fluoridation by Henry F. Helmholtz, M.D. American Journal of Public Health, Vol. 44, No. 7, July 1954
- K. Consumer Reports Reprint, "Fluoridation"
- L. Status of Fluoridation in States
- M. "Fluoridation in Prevention of Dental Caries"—American Dental Association, May 1954
- N. Facts for Extension Agents about Fluoride Programs for Improving Dental Health in Rural Areas. U. S. Department of Agriculture Extension Service Circular 492, July 1954
- O. Fluoridation Information
- P. Available Audio-Visual Aids on Fluoridation. Florida State Board of Health, Division of Health Information

Exhibit 65—Portfolio on Fluoridation distributed by Maine State Department of Health and Welfare, Augusta, Maine, containing the following:

- A. Better Health through Fluoridated Water prepared by Division of Dental Public Health, Public Health Service
- B. Fluoridation for Prevention of Dental Caries by Borden S. Veeder, M.D. Journal of Pediatrics, St. Louis, Vol. 46, No. 1, Jan. 1955, pgs. 134-136
- C. Community Organization for Fluoridation of Public Water Supplies
- D. Letter from President of Maine Medical Association to Secretary of Maine Dental Society approving principal of fluoridation of water
- E. Notice of policy statement and resolution by the Maine Dental Society with respect to fluoridation of community water supplies
- F. Resolution by El Paso Medical Society (Colorado Springs, Colorado) on the effects of fluorine in municipal drinking water
- G. Resolution of Canadian Dental Association respecting approval of fluoridation

- H. Statement to the Legislative Committee on Public Health of Massachusetts on Fluoridation of Communal Water Supplies, March 23, 1954 by James H. Shaw, M.D.
- I. Water Fluoridation—Report of the Committee of the St. Louis Medical Association
- J. Views on Fluoridation of Water by Dr. A. R. Daviau. The Waterville (Maine) Morning Sentinel, April 20, 1954
- K. Reprint from Portland (Maine) Press Herald, March 26, 1954. "Harvard Professor Attacks Stand against Fluoridation of Water"
- L. Editorial from Industrial Medicine and Surgery by Editor Carey P. McCord, M.D., September, 1954. "Fluoridation, Industry, and Occupational Health".
- M. American Dental Association Newsletter, May 1, 1954. "American Cancer Society Again Calls Fluoridation Safe".
- N. Facts about Fluoridated Water and Tooth Decay by Henry F. Helmholz, M.D. Reprint National Parent-Teachers Magazine, Feb. 1953
- O. Natural Fluorides in Maine Public Water Supplies
- P. Public Laws—1953—Chapter 324. An Act Relating to Fluoride in Public Water Supplies
- Q. Fluoridation Information by Dean Fisher, M.D., Director Bureau of Health, State of Maine Department of Health and Welfare
- R. State Cooperation Information Letter: Food and Drug Administration, Washington, D. C., June 3, 1952. "No conflict between Food and Drug Administration and the U. S. Public Health Service regarding fluoridation of public water supplies."
- S. Past President Roger Adams, A.A.A.S., speaks on fluoridation
- T. Journal of Milk and Food Technology, Vol. 17, No. 4, April 1954. Editorial Notes: "Fluoridation of Milk?"
- U. Effects of Fluoridation of Community Water Supplies upon the Aged and Chronically Ill. A statement by the Commission on Chronic Illness
- V. Letter from David B. Ast, DDS, to Dr. Paul Belding discussing fluoridation
- W. Report of the United Kingdom Mission on Fluoridation in North America, September 1953
- X. Excerpt of letter from Federal Civil Defense Administration, Oct. 12, 1953, refuting possibility of sabotage of drinking water supply by application of fluoride
- Y. American Dental Association Council on Dental Health, March 1952. "Facts Regarding Statements made in Objections to Fluoridation."

Exhibit 66—Digest of Opinions on Fluoridation compiled by Health League of Canada. Reprint of American Dental Association

Exhibit 67—Fluoride and Your Children's Teeth by Don Durham published by the Cleveland Press

- Exhibit 68—Toxicological Evidence for the Safety of Fluoridation of Public Water Supplies by Francis F. Heyroth, M.D. American Journal of Public Health, Vol. 42, No. 12, December 1952
- Exhibit 69—Status of Fluoridation Programs in the United States, its Territories and Possessions. Council on Dental Health American Dental Association
- Exhibit 70—An Analysis of the Delaney Committee Report on the Fluoridation of Drinking Water by Drs. Doty and Phair. American Dental Association, Vol. 45, September 1952, pgs. 351-356
- Exhibit 71—Fluoridation and Domestic Water Supplies in California by Henry A. Dietz, Assistant Attorney General, State of California. Hastings Law Journal, Fall Issue, 1952
- Exhibit 72—The Irresponsible Opposition to Fluoridation by J. Ray Doty, Ph.D., Chicago. American Dental Association, Vol. 47, August 1953, pgs. 203-205
- Exhibit 73—British Fluoridation Mission Report. American Water Works Association No. 23, August 1953
- Exhibit 74—Fluoridation of Public Water Supplies, Fluoridation History, Community Organization, Questions and Answers, Bibliography of Resource Material — prepared by the Illinois Department of Public Health, Bureau of Dental Health, and approved by the Illinois State Dental Society, Council on Dental Health
- Exhibit 75—Can We Give Our Children Better Teeth by Dorothy M. Johnson—reprinted from Redbook Magazine, June 1953
- Exhibit 76—Excerpts of letters from authorities in areas where fluorides occur naturally or are being added to the water supply
- Exhibit 77—Explanation by Drs. Forst and Ast of the Misinterpretation of the Newburgh-Kingston Study by the State Education Department of the University of the State of New York



Another reference (not presented at the hearing) is: Public Health Reports, Vol. 69, No. 5, pgs. 452-453. May 1954.

OPPONENTS' EXHIBITS

1. Statement of Donald R. Lane representing the Christian Science denomination in Florida
2. Articles of Agreement, City of Daytona Beach
3. Grove and cattle losses laid to fluorine in air: Florida Grower and Rancher, Vol. LXIII, No. 8, August 1955
4. Letter of Frederick B. Exner, M.D., to Mayor, City of New York
5. Testimony of Frederick B. Exner, M.D., before the Florida State Board of Health
6. "NO HARM" FROM FLUORIDATED DRINKING WATER by George L. Waldbott, M.D.
7. Letter from Medical Associates of Pawtucket—Pawtucket, Rhode Island, to Dr. George E. Waldbott
8. Medical Evidence Against Fluoridation of Public Water Supplies by George L. Waldbott, The Australian Journal of Dentistry, Feb. 1955

9. Excerpts from 4th Annual Conference, State Dental Directors with the PHS and Children's Bureau, June 6-8, 1951
10. *Fluoridation of Water*—Hearings before the Committee on Interstate and Foreign Commerce, House of Representatives—House Bill H.R. 2341, May, 1954
11. *Chemicals in Foods and Cosmetics*—Hearings before the House Select Committee to Investigate the Use of Chemicals in Foods and Cosmetics H.R. 74 and H.R. 447
12. Letter to Mr. C. A. Barten, Oberlin, Ohio, from Office of the Clerk Supreme Court of the U. S., January 13, 1955
13. Has the Dental Profession Been Misled on Artificial Fluoridation of Communal Water Supplies—by A. Allen London, D.D.S.
14. *The Fluoridation Research Studies and the General Practitioner*—by Thomas M. DeStefano, DDS, Feb. 1954 Bulletin, Hudson County Dental Society
15. Letter from The University of the State of New York, Albany, giving figures on Newburgh-Kingston Study
16. *Fluorine* Yearbook of Agriculture, 1939
17. Petition presented to Governor of Michigan
18. Letter to Dr. Bryans from Alvin L. Mills, M.D., St. Petersburg, Florida, August 18, 1955
19. *MOTTLED ENAMEL* by E. C. Geiger, DDS—from Florida Health Notes, July 1937
20. Letter to Mrs. McQueen, Loudon, Tennessee, from City of Memphis, Tenn.
21. *FLUORIDATION UNMASKED* by Fanchon Battelle (mailed to State Board of Health by R. W. Dumas, 2344 W. Fairbanks, Winter Park, Fla.)
22. Statement of Mrs. Walter L. Dobbins of Daytona Beach, Fla. (received September 2, 1955)
23. Statement of Marvin Smith, M.D., Miami, Fla.—dated August 24, 1955



FLUORIDATION OF PUBLIC WATER SUPPLIES
(FLORIDA STATE BOARD OF HEALTH STATEMENT OF POLICY)
(Revised February 13, 1951)

The Florida State Board of Health's policy relative to the fluoridation of public water supplies is quoted below for guidance of those concerned with compliance therewith.

Prior to placing treatment in effect which involves applying sodium fluoride or similar compounds to a public water supply the following steps are necessary:

1. An expression *in writing* from the appropriate city official to the State Board of Health requesting permission to apply fluorides to the local water supply under supervision of the State agency.
2. Approval *in writing* for fluoridation from these agencies or organizations:

(a) Local Medical Society	(c) Local Board of Health
(b) Local Dental Society	(d) Local County Health Department
3. Passage of an ordinance by the city governing body directing the water department to provide the means and to proceed with the introduction of fluoride to the water supply as directed by the State Board of Health.
4. Approval *in writing* for fluoridation by the State Board of Health with the following provisos:

- (a) The municipality *will provide* a qualified technician to personally supervise this treatment process and whose qualifications are approved by the State Board of Health. This technician must possess a Class "B" Water Works operator's certificate as issued under the certification plan of the Florida Water and Sewage Works Operators Association. A water plant operator not already holding a Class "B" water works operator's certificate issued under the certification plan of the Florida Water and Sewage Works Operators Association, or its equivalent as issued under some other state certification plan, must obtain a Class "B" water works operator's certificate under said certification plan before he (or she) will be approved by the Florida State Board of Health as the operator-in-charge of fluoridation treatment.

Under the certification plan of the Florida Water and Sewage Works Operators Association a Class "C" water works operator can apply for a Class "B" examination if he presents bona fide evidence that he meets one of the following requirements as to training and experience:

A. TRAINING		EXPERIENCE
1. Graduate of a high school or equivalent		6 years
2. Graduate of high school, or equivalent, and additional training in bacteriology and chemistry		4 years
3. Two years college with training in chemistry and bacteriology or public health		2 years
4. Graduate of recognized college or university with technical degree		1 year
OR		
B. TRAINING		EXPERIENCE
1. One year Short School		4 years
2. Two years Short School		3 years
3. Three years Short School		2 years
4. One year of Short School with college degree with major in chemistry or public health		1 year

If he successfully passes a Class "B" examination, and the Board of the Examiners of the Florida Water and Sewage Works Operators Association recommends to the Bureau of Sanitary Engineering of the Florida State Board of Health that he be issued a Class "B" water works operator's certificate, an appropriate certificate will be issued.

This technician will, under direction of representatives of the Bureau of Sanitary Engineering of the State Board of Health, be responsible for all phases of this treatment process, including application rates, *chemical control tests on raw and treated water*, adjustment of feeders, furnishing required reports to city and state agencies, etc.

- (b) Fluoride Content (as F) is not to exceed 1.1 parts per million in Public Water Supplies throughout Florida during the months November through April, with the tentative desired range being between 0.8 and 1.1 ppm. During the months of May through October the fluoride content (as F) should be maintained as nearly as possible within the range of 0.6 to 0.8 ppm.

- (c) Chemical feeders will be approved on a "job to job" basis at the time plans and specifications for each installation are submitted to the Bureau of Sanitary Engineering for approval.
- (d) Complete records as requested will be submitted to the State Board of Health.
- (e) Water samples for chemical analysis will be submitted as directed to the State Board of Health for control tests.

Present experimental evidence indicates that artificial fluoridation of public water supplies, under adequate supervisory control, will result in a significant reduction in tooth decay among children in communities utilizing this water treatment process. So far no harmful effects from this treatment have been demonstrated.

Therefore, the Florida State Board of Health feels justified in approving the application of fluoride to public water supplies deficient in this element, under controlled conditions, if items 1 through 4 of this policy are observed.



A DECADE OF FLUORIDATION

The final report of the 10 year Newburg-Kingston fluoridation study was presented on December 12, 1955 before a meeting of dentists at the New York Academy of Medicine. The study, started in May, 1945, was detailed and exacting. The medical, dental, and public health aspects of this procedure were investigated.

The report securely establishes both the efficacy and safety of fluoridation. The findings are in agreement with the other 10-year studies in Grand Rapids, Michigan and Brantford, Ontario. All indicate that fluoridation reduces dental decay from 58 to 65 per cent. The studies provide overwhelming evidence of the safety, practicability and efficacy of this public health measure.

There has been substantial progress already in the public health application of this method. Fluoridation is now being practiced in 1,117 communities in the United States with a total population of over 22 million. Fourteen Florida cities are included and 5 additional ones will be added early in the year. Twenty-two additional Florida cities and towns have fluoride in their natural water supply in approximately the correct amount to control tooth decay.

Floyd H. DeCamp, D.D.S., Director
Bureau of Dental Health
Florida State Board of Health



Excerpt from

An EDITORIAL by GEORGE F. LULL, M.D.
Secretary and General Manager, American Medical Association
(appearing in *Today's Health*, June 1955)

WHENEVER a new proposal in public health is placed before the people, there are varying reactions. Skepticism, apprehension and suspicion guide the thinking of some while others are opposed to anything that costs money or are just generally opposed. It follows that every new scientific proposal must win its way to acceptance through a more or less prolonged battle of ideas.

It was so with vaccination against smallpox, immunization against diphtheria, chlorination of water for safety, fortification of milk with vitamin D and enrichment of flour for bakery goods. We are now going through the same phase in regard to fluoridation of drinking water.

With all due allowance for the democratic process, it must be held that the resistance to fluoridation of water supplies is a minority opinion and that the majority must rule, despite the possibly sincere opinion of the opposition.

The opponents of fluoridation have spread the impression that the American Medical Association did not endorse this public health measure. The fact is that it did, and that it stands by its endorsement. It is true that the endorsement did not urge any action whatsoever upon responsible officials because that is not the function of the Association. Both the A.M.A. Council on Pharmacy and Chemistry and the A.M.A. Council on Foods and Nutrition expressed themselves definitely to the effect that fluoridation is safe. If this is not an endorsement—what is it?

The arguments against fluoridation have all been considered by responsible scientists in medicine, dentistry and the allied sciences. It is established overwhelmingly that the addition of a measured quantity of fluoride to public water supplies to prevent dental decay in children is not only a constructive public health measure but is as safe as is humanly possible to determine.

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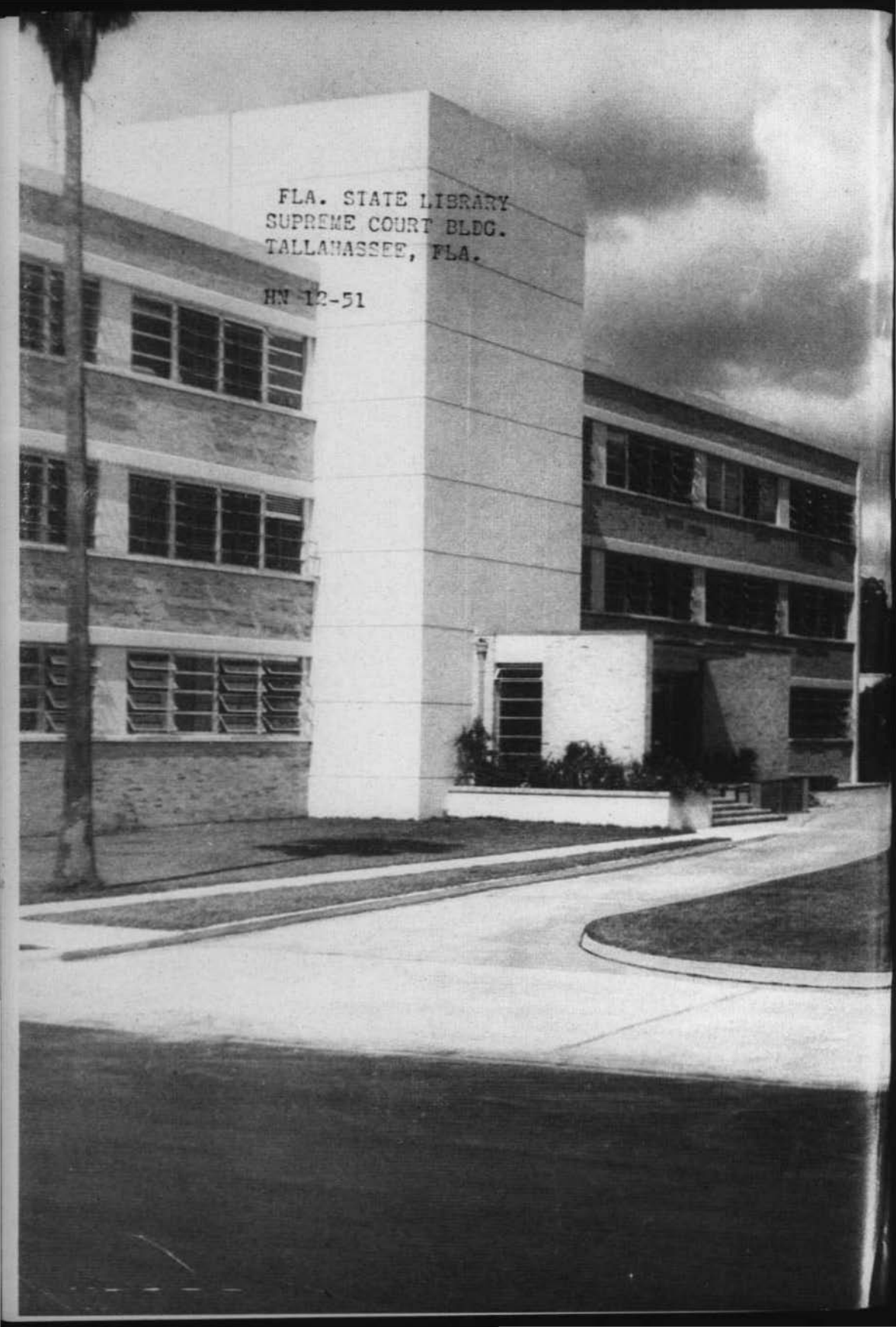
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All Counties in Florida have organized county health departments, except
St. Johns County

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Nursing Home Progress

Vol. 48
No. 2



► *A neat and attractive hairdo makes any lady, no matter what her age, feel better.*

► *No matter how feeble you are, it is good to get away from your room for a little while. Note handrail, which gives needed assistance.*



Nursing Home Progress

SOMETIME in your life you will find yourself concerned with a nursing home. If not for yourself, then perhaps because of a relative or friend who must be placed in one. Whoever or whatever is concerned in this problem, questions will arise. What types of nursing home services are available in Florida? Are nursing homes under any sort of supervision in our state? What assurance do you have that a nursing home resident will receive the sort of attention that may be necessary for the particular condition? What about costs of nursing home care as contrasted with value received? How about fire-safety precautions? Are the attendants kind? How do you locate a good nursing home?

Less than three years ago as this is written, (December, 1955), no person, no agency—official or otherwise—had any really satisfactory answers to those questions. Florida had no laws or regulations designed specifically for nursing home operations. Almost anybody could go into the business. Few operators appeared to know what constituted acceptable health and safety standards for such

an enterprise, but the situation was not unique in Florida; other states had the same problem. A few, notably Maryland and Illinois, were trying to do something about it. Pioneering efforts in those states began to attract attention in Florida. By 1951, public interest in Florida's nursing home problems had reached the point so that a bill was introduced in the State Legislature to provide a certain amount of control over such institutions. The proposed bill evoked considerable discussion, but was finally smothered in the closing rush of last-minute legislation.

Progress Report

What has happened in Florida during the past three years to reveal some of the shortcomings in nursing home service? What are the answers to some of the questions posed above? This issue of HEALTH NOTES will attempt to tell you.

The lessons learned in the failure of the 1951 bill to pass were taken to heart. Another proposed bill was drafted for submission to the 1953 State Legislative session. Sparking the move for the new bill was a group of Jacksonville church-

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women and other interested citizens. Adding weight to their proposals were such agencies as the Governor's Committee on Retirement, the State Board of Health, the State Department of Public Welfare, the State Improvement Commission and the State Attorney General's office.

Of some significance to those working for nursing home legislation in Florida was that both Maryland and Illinois had turned to their State Boards of Health to devise suitable regulations in this hitherto uncharted field and to enforce such laws as were passed in those states. So it was decided to entrust a similar task to the Florida State Board of Health as the state agency with the most suitable organization for the task.

Three things happened early in 1953 that added new impetus to the move for control of nursing homes in Florida:

1. The State Board of Health and the State Department of Public Welfare began to spread the word far and wide that after June 30, 1953, Federal funds, (used to supplement State Welfare funds), could no longer be used to support welfare clients in nursing homes not licensed by some appropriate state agency.

2. The State Board of Health produced an issue of **FLORIDA HEALTH NOTES** on the nursing home problem, calling attention to the lack of laws, regulations and a licensing authority, necessary to qualify for continued Federal welfare participation and spelling out in detail

the proposed law and regulations.

3. An early-morning "flash-fire" in a west coast nursing home March 29, 1953, leveled the building and proved fatal to 33 old people housed there. Adding a crowning note of horror to the disaster were reports that several of the occupants who had been led to safety became confused and reentered the burning building, evidently in search of clothing or other personal effects.

This combination of circumstances helped to bring the proposed legislation to successful passage during the 1953 session. The Governor promptly signed it into law. The Florida State Board of Health had another job to do.

The purpose of the law, as noted in the title of the bill, "is to provide for the development, establishment and enforcement of basic standards for the health, care and humane treatment of persons in nursing homes, and for the construction, maintenance and operation of such institutions which, in the light of existing knowledge, will ensure safe and adequate care, treatment and health of persons in such homes."

A Nursing Home Is . . .

The bill also defined a "nursing home" as "a private home, institution, building, residence or other place, whether operated for profit or not, including those places operated by a county or

municipality, which undertakes through its ownership or management to provide for a period exceeding 24 hours, maintenance, personal care, or nursing for three or more persons not related by blood or marriage to the operator, who by reason of illness or physical infirmity or advanced age are unable to care for themselves. . . ."

Before we go any further it might be wise to distinguish between the "boarding home" or "rooming house" providing food and residence, and a "nursing home." For in the eyes of the law, there is an important difference. This question was referred to the office of Florida's State Attorney General. After a careful scrutiny of the new law, the attorney general expressed the opinion that "a rooming house does not become a 'nursing home' until its management undertakes to provide maintenance, personal care, or nursing for more than two persons who, by reason of illness, physical infirmity, or advanced age, are unable to care for themselves.

"Ordinarily a rooming house operator would not provide his elderly guests with the care and attention necessary to bring his establishment within the definition (of the law), and enlarged upon by the regulations of the Florida State Board of Health. The distinction to be observed is that between the caring for the room of a guest in a rooming house and the care of the person in addition to the room,

where a nursing home is involved. Although the care given a patient or inmate of a nursing home may be no more than that entailed in observing diet and sleeping habits and maintaining a watchfulness over general health and well-being, this is substantially more attention than is due or given an elderly guest or tenant of a rooming house."

In brief, a "nursing home," provides nursing service. Therefore, not only the condition of the home is important from the standpoint of basic cleanliness, but from the quality of nursing service provided.

Base Line Problems

The State Board of Health faced still another important problem in drafting minimum standards for the operation of nursing homes. Well aware that many residents of nursing homes were in poor financial circumstances (a substantial proportion being wholly dependent upon welfare grants), the board sought to devise standards affording a minimum of care and safety consistent with the nursing home resident's ability to pay.

With these ideas in mind, the State Board of Health's Field Advisory Staff drew up a tentative text on nursing home rules and regulations. But before putting the regulations into actual effect, they decided to refer them to a special Citizens Committee on Nursing Home Licensure.



► *This gentleman is enjoying his breakfast, a tasty balanced meal, attractively served.*

The Citizens Committee had a wide representation of individuals and agencies with a special interest in improving nursing home conditions. Included were representatives in the fields of nursing, social work, nursing home associations as well as individual nursing home operators, church groups, the State Hotel Commission, the State Fire Marshal, the Florida Hospital Association, the State Department of Public Welfare, sanitation and sanitary engineering personnel and other representatives of the State Board of Health and the board's attorney.

A few minor changes were suggested in the original draft of the regulations and the group agreed in principle on the proposed program.

How Many?

The first job the State Board of Health Field Advisory staff faced was to make a "census" of nursing homes in Florida. By the end of the year 1953, 159 such institutions had been classified and listed as nursing homes within the meaning of the law, and a majority had undergone the first inspection. The inspection teams were composed of a sanitarian and a nurse. The sanitarian was concerned with fire safety factors and the suitability of each home from the standpoint of basic sanitation. The nurse was concerned about the availability of medical service when needed and the type and quality of the nursing service which was provided.

The first step in putting the law and its accompanying regulations into effect was the staging of a series of regional meetings to acquaint nursing home operators with the new program and to give them some idea as to what inspectors would be seeking. These regional meetings, generally well attended by nursing home operators, were held in Pensacola, Jacksonville, Panama City, Tampa, St. Petersburg, Orlando, Miami and Palm Beach.

The inspection tour started in Pensacola and reached finally every county where a nursing home was in operation. As of November, 1955, there were approximately 270 licensed nursing homes in 37 counties with about 6,300 beds available for the purpose.

What did the inspectors find on their first trips into nursing homes? Let us consider fire safety and basic sanitation first and discuss nursing aspects later. Says a sanitation and fire safety inspector:

"Every home was checked, and an inspection sheet noting deficiencies was left with the operator with recommendations for making corrections. At one end of the scale we found one home in Palm Beach County where only two minor corrections were needed. At the other end of the scale we found two nursing homes in a West Coast county (near Tampa) that were in such sorry condition and so carelessly operated they were

closed immediately and occupants moved elsewhere.

"We found that the vast majority of nursing homes were considered 'not too objectionable' and came to learn that the general picture was better than we had thought we would find. Inspection teams were generally well received, although in one instance one of our nurse inspectors was chased out of a nursing home by an ax-waving member of the nursing home staff."

Fire!

The biggest problem facing the sanitation inspectors was the elimination of fire hazards. Many nursing homes, they discovered, were being operated in wooden residential units, a few with two or more stories. In some of the homes, beds were arranged so closely together that it was difficult to pass through the room. Fire exits were inadequate. Exits and stairways were not suitably marked. Automatic fire sprinklers were lacking in almost every instance. Another potential fire hazard frequently encountered was the lack of adequate wiring.

Because so many fires occur today from defective wiring, particular attention was paid to electrical circuits. Many older homes, wired some years ago, could not pass an electrical inspection today. Insulation is inadequate or rotten from age. The average home, wired for family use, is not suitably wired for the increased occupancy of

a nursing home service. Then, too, people are using more electricity than they once did, with wider use of radio and television sets, electric irons, cleaning devices and other appliances. It was necessary to have inspectors from fire departments and city building departments check on the need for replacement or extension of electric wiring systems.

We might add here that no municipality in Florida has failed to supply electrical inspections on request. No fire department, either paid or volunteer, has refused to cooperate. This assistance has been gratefully received and has contributed substantially in eliminating fire hazards.

Such improvements were expensive. Many nursing home operators were reluctant to make the necessary changes to conform to the law and regulations.

► *A circulating oil heater is inspected by a fireman.*



To dramatize the need for eliminating fire hazards, the Field Advisory staff designed a number of "gadgets" to show different ways in which fire can start. The devices are currently being used in demonstrations before nursing home operators and other groups and have been displayed on several television shows.

One gadget demonstrates graphically how an overloaded electric line can start a blaze that is hidden from view until it has a dangerous head start. Another device shows how explosive vapors from carelessly used cleaning fluid can travel considerable distances to reach an open flame—a pilot light on a water heater or stove, for instance. It starts people thinking, and all at once the expense of making the necessary corrections in electrical wiring, for instance, doesn't seem to be as much of a burden as they had first thought.

Emphasis on fire safety precautions has drawn the Field Advisory Staff into a closer working relationship with fire departments and fire inspectors. Recalling the West Coast fire that claimed 33 lives, fire departments are realizing the need not only of getting elderly residents of such homes safely out of the building, but of maintaining a watch on them to be sure they do not re-enter the burning building. Several departments now plan to send additional equipment to nursing home fires so that more manpower will be



▶ *Sanitarian checks an electrical fuse box.*

available, not only to fight the blaze, but to assist in rescuing and guarding people removed from the burning buildings. Most cities have classified all nursing home fires as a "general alarm" blaze requiring additional equipment whether needed or not. Several are going one step further—the fire department is arranging with ambulance services to assist in transferring victims of nursing home fires to other quarters as promptly as possible.

Realizing that a number of nursing homes are located beyond city limit lines, Field Advisory Staff members are working to establish better working relations with the growing number of volunteer fire depart-

ments. To date, some Florida cities have agreed to send fire trucks outside city limits to nursing home fires. Others are hesitant to do so, citing lack of suitable water supplies beyond the fireplugs of municipal systems.

"City trucks are often not suitable," says a fire inspector. "Occasionally you will find a volunteer fire department, especially one equipped with tank trucks, which can do a better job of rural fire-fighting than a city fire department unit with its dependence on municipal water systems."

No fire safety program can be expected to be 100 per cent perfect, but the State Board of Health believes that fire safety precautions can go a long way toward preventing another nursing home holocaust. For that reason, they have put first emphasis on fire safety features of the program.

Cleanliness

Fire safety measures are important, but no less important in the long run is basic sanitation, the cleanliness that promotes comfort and good health. In addition to checking on fire hazards, the sanitation inspector must also look to the condition of the building itself, with attention to floors, walls, ceilings, roof, steps and stairs, stair and guard railings, etc. He must also check on utilities, such as water supply, hot and cold; plumbing and sewage disposal; must note if toilets, baths and lavatories are adequate.

Lighting and ventilation must be checked. Does the home have enough windows of sufficient size; are halls and rooms adequately lighted, and is there an approved emergency lighting system? Are beds pushed too closely together for convenience and safety? Particularly must the sanitarian note the kitchen, its equipment and condition for here is where food poisoning can start. Dishwashing facilities, garbage disposal, cleanliness of utensils and equipment and adequate refrigeration; is there evidence of flies and roaches, ants or other insects—all these items must be checked.

The public health nurse is more concerned with noting the cleanliness of the patients, their clothing and bed linens. Have their hair and nails been cared for adequately; is the bedside table maintained in a clean manner?

Sanitation shortcomings can be erased. Nursing homes can be made fit and safe as living quarters for occupants, but what of the "nursing" side of the nursing home picture? What did nursing inspectors find on their first visits in the fall of 1953? What improvements have been made in two years?

Let's Review:

One of the major problems found when inspections first started was a number of dirty, smelly homes where the patients were receiving nothing but custodial care. There were some irresponsible operators; a few op-

erators had been leaving their homes for several days at a time in charge of untrained personnel.

Many operators were careless in their handling of drugs and narcotics. Some operators left dangerous medicines sitting around in any room of the house. Rare was the operator who had an approved type medicine cabinet with a suitable lock for storage of medicines. In one home medicines were found containing narcotics on tables and window sills in the living room and dining room. Any patient could help himself at any time he chose. Laxness of drug stores in a few instances in refilling prescriptions was another problem.

A number of nursing home operators were giving medications about which they knew little or nothing. In too many homes there was a lack of provision for medical care. In some instances, patients had not seen a doctor for months, and sometimes not for years. It was noted that there was a lack of skill in handling fracture cases. Nurses' aides have been observed pushing on a fractured hip in an effort to turn the patients.

There was almost complete lack of adequate records. A few homes had acceptable records, but the majority had very poor ones or none at all. The day-to-day notes on the available records were often unsatisfactory.

Some operators were unwilling to give more than custodial care to convalescent patients. They

felt that when they had provided a bed and food, they had done all that might be expected of them. Many operators had but little knowledge of modern dietary practices. Some were providing a high carbohydrate (starchy) diet, with little regard for fresh meats, fruits and vegetables. In some instances they were only serving two meals a day.

Occasionally the inspectors had difficulty in explaining what constituted good nursing practice. One nursing home operator told them earnestly that she did not plan to take 'convalescent' patients — she only wanted to take patients who were getting over a sickness!

In line with the risks of other occupations, nursing home in-

spection also has its hazards. One operator hired a woman to take charge of her nursing home. The woman she hired, it was learned later, had only recently been discharged from a mental hospital.

TLC

We could talk for hours about the necessary qualifications of nursing personnel—both registered and practical nurses, as well as desirable characteristics of aides and attendants, but the one ingredient that cannot be "regulated" is "TLC". Elderly people, the same as children, desperately need "tender, loving care." A nursing home may meet only the most basic requirements, but it sometimes has a happier atmosphere than does the more elaborately equipped



► *Two friends in a nursing home share handiwork ideas.*

home. The staff of a nursing home should like old people and want to work with them.

Many nursing home patients, the nurse inspectors believed, could be rehabilitated or trained to care for many of their own daily needs, but they realized that few operators have the training or experience necessary for such a retraining program.

They also noted a lack of occupational therapy—small tasks, hobbies and crafts, which would serve to keep minds and hands active and absorbed in the day-to-day routine of living.

Lack of money explains some, but not all, of the shortcomings found in the operation of nursing homes. For instance, the nursing homes providing services for welfare patients find themselves running on a slim margin of profit where these people are concerned. With the cost of good nursing services and basic necessities what it is today, some form of subsidy appears inevitable, if decent living standards are to be maintained.

Improvements

What progress has been made during the first two years of the state's inspection and licensure program? First, it may be noted that many of the operators are interested in improving the nursing services in their own homes and in seeing standards raised for nursing home operations. Indicative of their interest has been the formation of state and local associations of nursing home operators. Record-keeping is improving. Most of the homes

now have a record system which is kept posted with the necessary basic information about their patients.

In the beginning there were few homes that had written doctors' orders for medication and treatment. Either the doctor telephoned his orders or the nursing home operator gave the patient what she (the operator) considered suitable. Many operators kept medications after one patient ceased to need it and would give it to another patient who developed similar symptoms. Today more of the homes are successful in getting doctors' orders for medicines, and more and more doctors are personally visiting the patients.

Better qualified personnel is being employed. Most of the homes that formerly operated without any skilled nurses are now employing a nursing staff in keeping with the law and regulations. More homes are developing or expanding their recreational programs, with a consequent resurgent hope and interest in life for nursing home residents. Many nursing home operators have become more aware of the need for a diet suitable for older people. A number have sought help from the State Board of Health nutrition consultants in meal planning.

One of the big problems in enforcing Florida's nursing home laws and regulations is the question of money. Obviously a nursing home catering to people who can pay no more than the peak of \$60.00 monthly available



► *This bedridden elderly lady is as comfortable as possible, clean, and safe in her nursing home bed.*

from the State Department of Public Welfare cannot be expected to provide the same quality of service that a home designed to appeal to the well-to-do can offer. Many of Florida's nursing homes, providing a haven for welfare clients and others on a strictly limited income, have exercised considerable ingenuity in stretching their few dollars in an effort "to make ends meet," but some have failed.

The State Board of Health's Field Advisory Staff was well aware of this economic problem before it began its inspection program. How much service can you expect the low priced nursing home to provide in relation to the fees received? You can reasonably expect a nursing home charging, say \$200.00

monthly to eliminate fire hazards, to maintain an acceptable nursing service and to provide a satisfactory minimum of food, clothing and shelter for that amount of money, but the real financial pressure comes down on the nursing home operator who serves the person who has available a much smaller sum. This posed the big question: How much should a nursing home operator charge in order to be able to operate under the present nursing home regulations?

A Survey

Representatives of the State Board of Health and the State Department of Public Welfare undertook to answer this question in a survey made among nursing home operators during

a five-month study beginning in November, 1954, and running through March, 1955.

In explaining the reasons for undertaking the joint report, it was stated that:

"The State Board of Health and the State Department of Public Welfare are vitally interested in resources to be used in providing adequate care for those persons who must be cared for away from their own homes, because of illness or infirmity. The interest of the State Board of Health stems directly from its responsibility for licensing and maintaining standards in nursing and boarding homes for the aged and infirm. The interest of the State Department of Public Welfare comes as a part of its responsibility for helping recipients of public assistance to locate this type of care.

"While both agencies have been interested in assuring that acceptable standards of care are maintained in such homes, it has been recognized that raising standards in those homes which previously were providing sub-standard care has resulted in an increase in the cost of running such homes, an increase which has been reflected in a parallel increase in the charges made by the homes for care. There has been no parallel increase in the amount of public assistance grants to meet these increased costs. As a result there is an ever-widening gap between the charges made by nursing homes for care and the amount which

recipients of public assistance are able to pay.

"Growing concern over the inability of the majority of persons needing care to pay for such care and lack of information about the true cost of care resulted in a decision by the two agencies to initiate a study on the cost of nursing care providing minimum acceptable standards."

(It might be injected here that welfare clients are not the ONLY persons affected by these cost factors. There is also a growing number of people retired on small pensions who are in little better financial condition than those receiving welfare aid. What kind of service will a \$100 pension or retirement check buy?)

The survey had two major objectives:

1. To find out the type and amount of nursing service which were currently being provided by professional, semi-professional and non-professional nursing personnel in the various homes.
2. Data on overhead costs of operating such homes.

Seven state areas were chosen for study, ranging from Escambia and Duval Counties along the state's northern border, down through the central part of the state to Dade County. The report, running to 16 pages of text and tables, goes into considerable detail on all costs, from current salaries paid nurses and other personnel required to operate a nursing home to the

amount of investment money required to launch and to keep the enterprise in operation. The survey covered both boarding homes and nursing homes, to obtain a comparison between the two services.

We do not propose to go into detail on this study (copies are on file at the State Department of Public Welfare), since we are primarily interested in the survey's findings. Briefly, it was found that the average cost in operating a boarding home was approximately \$100 monthly per person, while a nursing home resident could be expected to pay at least \$150 for similarly adequate attention. Thus, it can be seen that the nursing service necessary in the operation of a nursing home adds at least \$50 monthly to the cost as compared with the boarding home.

The survey also noted (on the basis of information supplied by homes cooperating in the study) that charges made by nursing homes ranged from \$60, the peak amount which can be made available from public assistance grants, up to a maximum of \$400 per month, with an "average" charge of \$172.38. The same study also showed that charges made by boarding homes ranged from \$40 to \$239 monthly, for an average of \$96.87.

In its summation, the survey's compilers offered a warning:

"In drawing conclusions from this study," it was specified, "it should be emphasized that this joint venture of the two agen-

cies did not contemplate establishing a cost-of-care scale to be imposed on nursing and boarding home operators or in any way attempt to establish the amount which they should charge for care . . . It was felt that the figures arrived at should reflect the cost of **acceptable care** for the **average patient** with no allowance being made for extra services which various homes might wish to offer and for which they would make an extra charge."

Pointing out that the "gap between the actual cost of care and the amounts which the recipient of public assistance can pay is a causative factor in the low standards being maintained in many of these homes" catering to low-income groups and welfare recipients, the report recommends that:

". . . The need for additional funds to pay for care be recognized and planned for either at state or local level. In addition, it is recommended that there be some plan for providing additional trained personnel to be employed in the homes and for further developing the current plans of the State Board of Health for workshops, institutes, training classes, etc., for those already employed. It is also recommended that the need for recreation and rehabilitation facilities be recognized and a plan developed for providing for these services."

Financial considerations discussed above have influenced State Board of Health nursing

home inspectors. Of course, a few homes were found in such impossible condition or so carelessly run that they were closed immediately or operators went out of business in the realization that they could not conform to the laws and regulations of the nursing home inspection and licensure program; but what of the "borderline" nursing home, particularly those homes catering to welfare recipients and other low-income people? If you closed up those homes, where would the people go? A nursing home inspector explains:

"Although most of Florida's nursing homes are operating up to and beyond our minimum standards, we have a number of 'borderline' homes that present

a problem. Operators of these homes tell us they want to conform. A test of their sincerity is their willingness to actually make necessary improvements from time to time. Most of these homes are serving welfare recipients or similar low-income groups. The problem is—where would we put the people if we did close these places?"

Back To The Counties

Although the Field Advisory Staff admits that there may be a few nursing homes that haven't been located yet, the initial task of inspections and licensing has been completed. Nursing home licensure and inspection has been turned over to county health departments, with the exception of St. Johns, the



► *The happiest nursing home residents are those who can keep in contact with their folks.*

only county in the state which does not have an organized county health department. Field Advisory Staff members now serve as consultants to county health department directors on problems arising from the practical application of the nursing home program.

Florida has come a long way in the first two years of operation under its nursing home program, but it must be admitted that much work yet remains to be done. Florida's counties are joining with the State Board of Health and the State Department of Public Welfare in a study of current problems. One of the big problems is financial. A few counties are already supplementing state welfare grants to help ease financial needs. Other counties are considering proposals to provide a similar financial supplement. Money troubles also plague county health departments. Although county health departments now have the basic responsibility of nursing home inspection on the local level, the departments do not have money specifically appropriated for nursing home inspection services. Nurses and sanitarians have been shifted from their regular duties to do routine inspection of nursing homes. In several instances this has created hardships in county health department operations.

Another problem arises in the construction of suitable nursing homes. Many such enterprises are carried on in old wooden residences which have been convert-

ed to that purpose. Such buildings are unsuitable for a number of reasons—the fire hazard being the principal objectional feature. Other states are bothered by the same problem. Arizona, for instance, has proposed that federal aid under the Hill-Burton act could be utilized to provide more suitable structures for nursing home use. How can this problem best be met?

Other Views

What constitutes a good nursing home anyway? An article in Arizona Public Health News published by the Arizona State Department of Health entitled "A New Look at Nursing Homes," supplies part of the answer.

"The nursing home has become an established facility for patients who may require more care than can be readily given in their own home," the article explains. "The individual needs make nursing home design a new problem. The structure must be planned to care for predominantly long term patients who will need not only medical and nursing care to improve and maintain their health, but space for social contacts, recreation and rehabilitation activities as well.

"Ideally there should be a pleasant informal atmosphere that avoids a drab, institutional aspect. It should not be so large that individualized care is difficult. Twenty-five to fifty beds is an economical, manageable unit that could be designed with the thought of future expansion. The site selected should, if pos-

sible, have attractive surroundings, close to public transportation for convenience of staff and visitors, with enough neighborhood activities to interest patients. The area should have the services of an organized fire department." Such a structure is obviously NOT a remodeled residence which has outlived its usefulness as such.

So much for financial problems, the suitability of buildings for nursing home use and the safety and comfort features of such housing. Let's look for a moment at how medical and nursing care could be improved. It is our hope that in the care and treatment of older people that nursing homes will play an important part in the training of the young doctor, and professional and practical nurses. As medical knowledge advances we will have an increasingly larger number of people surviving their more vigorous years to face the hazards of old age.

To afford this training and experience, it would be helpful to have nursing homes located at or near hospitals, so that equipment, personnel and patients could flow more easily from one to the other.

Perhaps the time will come when nursing homes will have such recognized standing that patients could be sent from hospitals to such a home for bed rest or convalescent purposes, thus freeing the more expensive

hospital beds for use of those in need of the specialized medical and surgical services which only a hospital is prepared to provide.

There may come a time when one of Florida's universities, in cooperation with other agencies, might sponsor institutes, workshops and other training programs for nursing home operators and their personnel to improve the quality of treatment and nursing care given in the homes. Currently such training is being offered in such widely divergent fields as school teaching, agriculture and water and sewage treatment plant operation.

All states face the same problem about what to do about nursing homes in varying degree. In Florida, it is perhaps a little more acute than in some other states. In 1950 the Federal census reported that there were in our state nearly 250,000 people 65 years of age and over, constituting 8.6 per cent of the state's population. More older people are coming to Florida every day, attracted by the advantages this state has to offer those seeking a place to retire. Economic circumstances being what they are, it is reasonable to suppose that a significant number of people in the older-age bracket will need nursing home care, either periodically or regularly during their last years. What can you do to help assure that they will find the necessary accommodations?

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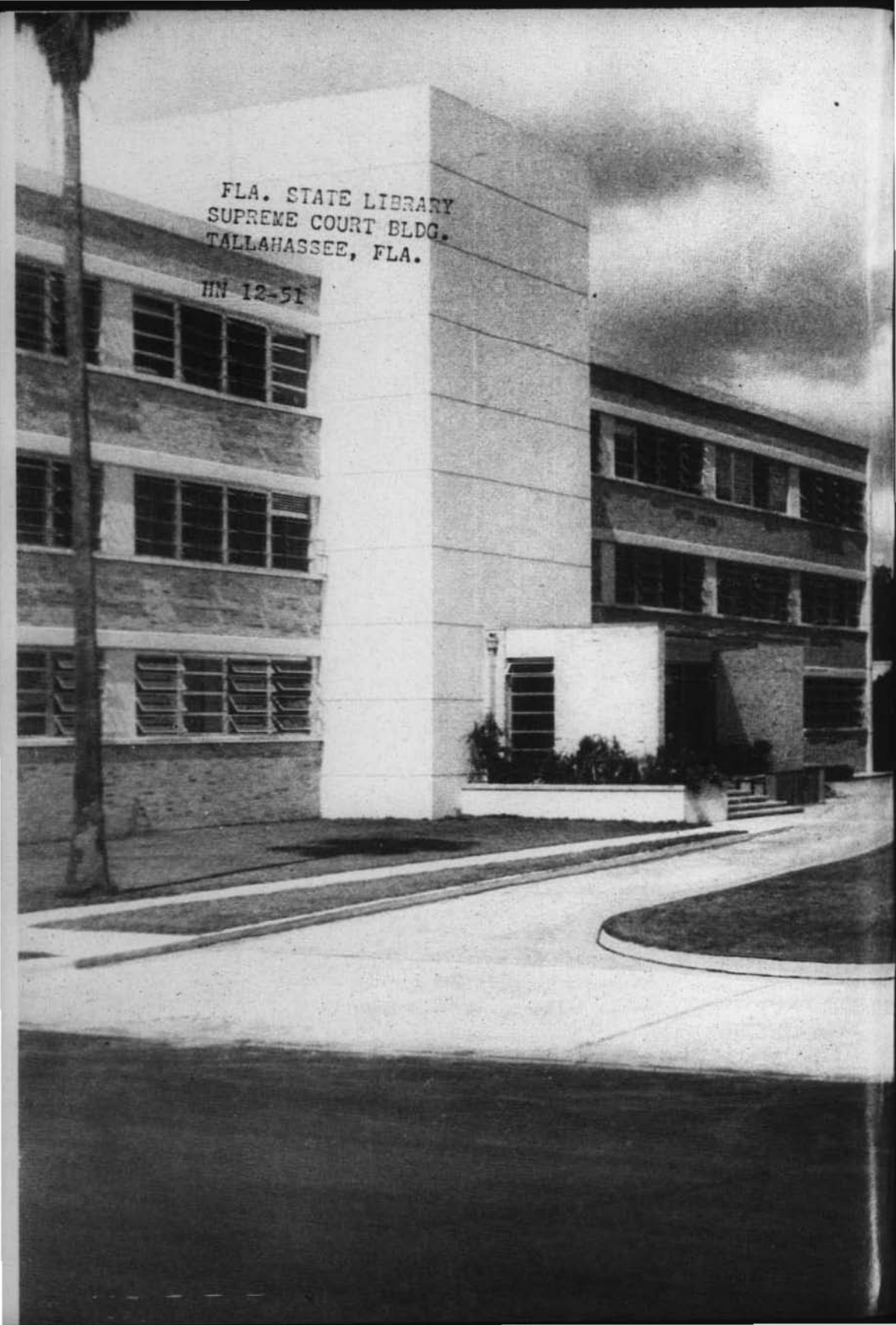
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All Counties in Florida have organized county health departments, except
St. Johns County

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Public Health Nuisances

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► *A Director of a County Health Department, supported by his Chief Sanitarian, listens patiently to a citizen who is making a complaint.*

Public Health Nuisances

SO YOU WANT to make a complaint about what you may call a "sanitary nuisance." Well, so do lots of other people. For example, in recent months irate citizens have contacted their county health departments about correcting a number of annoying conditions.

▶ A lady called and wanted someone to come out and make her husband take a bath.

▶ A woman demanded that the county health department get a "pole cat" (skunk) out from under her house. (A brave sanitarian obligingly chased it away.)

▶ An angry man reported that he lived next door to a noisy filling station and as it was the county health department's business to see that he got his eight hours' sleep every night, would they please see that the noise was stopped immediately?

▶ A woman called in to ask that somebody make her neighbor stop emptying a chamber pot against her fence.

▶ A family complained of a bad odor in their house. The county health department sanitarian diagnosed it as a dead rat in the wall, whereupon the family advised him it was his duty to get the dead rat out of said wall!

Some of the above complaints sound rather far-fetched, don't they? Yet they were very real and annoying to the people who made them. They were nuisances in the best dictionary sense: anything which hurts, harms, injures or annoys. A legal definition goes on further to say: a nuisance affecting a community as a whole is a public nuisance; one affecting some particular individual is a private nuisance; and one affecting both the community as a whole and a particular individual is a mixed nuisance.

Some of the general nuisances which are often complained about are:

- ▶ Chickens in residential areas: crowing, dirty chicken houses, foul odors, etc.
- ▶ Dogs barking, cats howling, and other night noises.
- ▶ Standing water, especially that which must be walked through.
- ▶ The disposal of dead animals on highways and private premises, too.
- ▶ Weeds on vacant lots: snake and rat harborage.
- ▶ Accumulations of trash and papers, etc.
- ▶ Unpleasant odors.

FLORIDA HEALTH NOTES

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A health department, be it a county health department or the State Board of Health, is not equipped to cope with all kinds of nuisances, no matter how distressing they may be. Health departments are concerned only with those conditions which pose a threat to the health or life of an individual or a group of people. To quote the law: in Florida Statutes, 1953, sect. 386.01, we find the following definition of a sanitary nuisance:

386.01 *Sanitary Nuisance*: a sanitary nuisance is the commission of any act, by an individual, municipality, organization or corporation, of the keeping, maintaining, propagation, existence or permission of anything, by an individual, municipality, organization or corporation, by which the health or life of an individual, or the health or lives of individuals, may be threatened or impaired, or by which or through which, directly or indirectly, disease may be caused.

Many of the nuisance reports will fall under another legally defined health nuisance. This definition is as follows:

Sec. 386.04, Florida Statutes, 1953. *Nuisances injurious to health; penalty*: Filth, the contents of cesspools, offal, garbage, foul water, dyewater, refuse from manufactories, urine, stable manure, decayed animal or vegetable matter, or other offensive substance detrimental to health, thrown, placed or allowed to remain in or upon any private premises, street, avenue, alley, sidewalk, gutter, public reservation or open lot within any incorporated city or unincorporated town or village of the State of Florida, are declared nuisances injurious to health, and any person who shall commit, create or maintain the aforesaid nuisances, or any of them,

shall upon conviction be fined not less than five nor more than twenty-five dollars for every such offense.

Some of the sanitary or public health nuisances that we encounter all too frequently today are:

- ▶ Overflowing septic tanks.
- ▶ Unsanitary surface privies, or other improper sewage disposal.
- ▶ Industrial plant wastes, such as refuse from a laundry, canning plant, etc.
- ▶ Mosquito breeding areas, whether for pest or disease-bearing mosquitoes.
- ▶ Foul odors.
- ▶ Improper garbage disposal—dumping on side roads in rural areas; inadequate garbage cans, etc.
- ▶ Unsanitary hog and cattle pens—and slaughtering near residential areas.

But before we get any further in the realm of prevention, laws and enforcement, let's read about some typical examples:

Mosquito Problems

A woman called in to say that in the vacant lot next to her there were a lot of tin cans; that they held water and were breeding mosquitoes. She requested that the county health department sanitarian go out and empty the cans. Said the weeds were too high for her to venture in. The sanitarian overturned the cans. No more complaints. (It was rumored that the lady had thrown most of the cans in the vacant lot herself.)

The breeding of mosquitoes in areas that could be controlled and/or drained cause many frayed tempers and sleepless nights. Where an extensive area is involved, there is usually a Mosquito Control District which concerns itself with ditching, filling and other measures that will help to reduce the number of mosquitoes biting locally. However, many a householder could help control mosquitoes in his own neighborhood by emptying any kind of containers that hold water: cans, tires and flower pots among others.

Odors

Unpleasant smells are often the source of much unhappiness. For example, a gentleman called the county health department one morning to say that there was something wrong with the water supply. They had their own pump and every time it would run, the odor would be most offensive. The county health department sanitarian checked the water and found it "bacteriologically safe." However, he quickly ascertained that it came from a sulphur well. The complainants were new in the community and had never smelled sulphur water before.

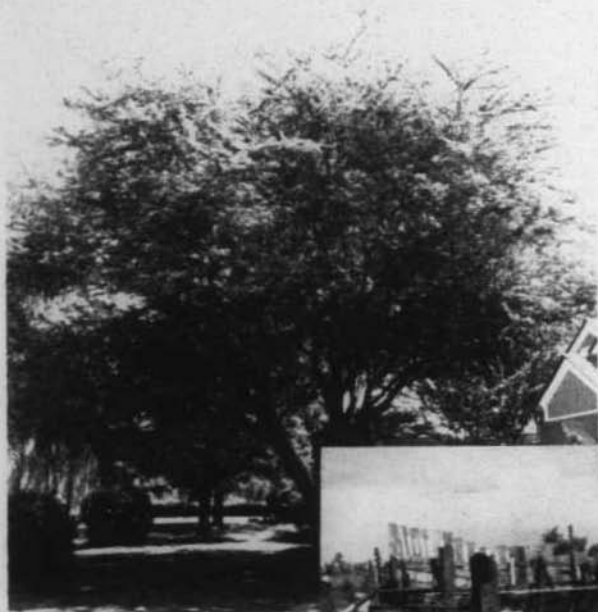
You wouldn't think that a tree could cause a complaint, would you? But a lady called to report a foul odor coming from the alley in back of her house; she was sure it was sewage, as water was standing in the alley. A check revealed the water was not sewage, but there was a definite odor around similar to it.

A careful search revealed a tropical tree in the alley which, if bruised, would give off a very strong sour sewage odor. Our records show that there have been quite a few complaints which were traced back to this same kind of tree. It has been identified as a *Pithocolobian Tree* and is shown here in a photograph.

In one of our larger counties, a report was received complaining of the odors and smoke from a battery plant. Investigation revealed that there was a very pungent smoke coming from the plant. The factory was notified that it was creating and maintaining a nuisance and should take steps to correct this condition. The owners decided to test the issue in court. The case was dismissed. Though the testimony of persons living nearby showed it annoyed them, the court ruled that no actual detrimental effect to health was demonstrated.

The law says:

Section 386.05, Florida Statutes, 1953, *Noisome odors or noxious gases arising from certain causes; penalty*—The filling, leveling or raising the surface of any ground or lot, within any incorporated city or unincorporated town or village of the State of Florida, with animal or vegetable substances, filth gathered in cleaning yards or streets, waste material from mills or factories, or the removal of the surface or any ground or lot within said cities, towns or villages, filled with such offensive matter or substance, in such manner as to cause noisome odors or noxious gases to arise, are declared nuisances injurious to health; and any person who shall cause, commit, create or maintain such nuisance



► *The Pithoccolobian tree that gives off an odor resembling sewage.*



► *A typical makeshift hog pen.*

shall be fined not less than five nor more than twenty dollars for every such offense.

Dead Animals

A familiar sight on our highways today are dead animals. Dogs, cats and wild life are frequently hit by the thousands of cars that go up and down our roads every day (at least, we don't have cattle on our highways any more!) Not only is the dead animal an unpleasant sight, but if he is a fairly good sized animal, he creates a traffic hazard. Also animals may die on private premises, whether belonging or not to the resident householder. It seems that each locality has its own method of disposing of such animals, but rarely does the county health department bear the responsibility. Animals dying on private premises usually must be disposed of by the householder. Sometimes convict crews remove large animals from the highway. Call up your city hall or county health department—they can refer you to the proper agency.

There Are Always Pigs and Cattle

One of the unsanitary conditions that cause much unhappiness and trouble are persons who keep pigs anywhere near residential areas. There are two statutes which deal with hog pens either directly as does

Section 386.70, which states as follows. *Keeping hogs in pen; penalty.* The keeping, herding and feeding of hogs in pens or otherwise within any incorporated city or unincorporated town of the State of Florida of over two thousand inhabitants, is declared a nuisance in-

jurious to health; and any person creating or maintaining such nuisance who shall fail, after due notice from the state health officer to abate the same, shall be fined not less than five nor more than twenty-five dollars for each such offense.

The other statute which indirectly applies to hog pens is

Section 386.12, which states: *Certain acts declared to be nuisances; penalty.* The boiling of offal, swill, bones, fat, tallow or lard, the crushing, grinding or burning of bones or shells, cleaning guts, making glue from any dead animal or part thereof, making or boiling varnish or oil, making lamp black, turpentine or tar, distilling ardent, alcoholic or fermented spirits, storing or keeping fat scraps, grease or other offensive animal matter, rendering or drying out dead, undressed and unslaughtered animals, or any other business or trade whereby noisome stenches and odors and noxious gases arise or are generated, within any incorporated or unincorporated city or town of the State of Florida of over two hundred inhabitants, are declared nuisances injurious to health; and any person who shall cause, erect, create, maintain or continue any such nuisance, and who shall fail after due notice from the state health officer, to abate the same, shall be fined one hundred dollars.

It would seem off hand that these two statutes would surely cover the "hog pen problem," but unfortunately most of the complaints concerning hog pens come from areas where the two population numbers above do not apply. If then a hog pen were referred to as a "general nuisance," one finds that there is no exact legal definition as to what constitutes an area either a village or a community. But here is an example which recently occurred in

one of our more populated counties.

A person was operating a business (on the edge of town) of fattening cattle for sale and the holding pens were very dirty, odors were strong, and flies were breeding in great number. The county health department gave notice to correct the nuisance and the owner ignored the notice. A case was made in court and the judge ruled that the business was not located in a recognized community or village and, thus, the nuisance statute did not apply in this case.

In another county the county health department was urged to make a case against the owner of a hog pen. The complainant admitted that the pens were very clean and that there was very little fly breeding, but claimed that the odor was bad and that her physician stated that it was affecting her health. She was advised that if she would get her physician to sign an affidavit that the odor from the pen was detrimental to her health and agree to come into court and testify, then the case would be brought into court. Her own attorney agreed that a court case wouldn't be successful without such an affidavit or testimony from the physician, which she was unable to obtain. A thorough investigation of this case revealed that most of the trouble arose from the fact that the man who owned the hog pen had made the complaining party move her fence line nine feet off of his property to the legal property line, and that the



► *He didn't get out of the way fast enough.*

nuisance complaints had all been reported since this action was taken. In this case, as in so many of the complaint cases, the true motive in securing some action by the health department was not that there was really a health hazard present, but that there was a personal feud going on between neighbors.

Improper Sewage Disposal

This is a source of many complaints: overflowing septic tanks, surface privies, breeding flies, and even approved-type privies producing foul odors.

To give one example: during a recent rainy season a county health department was swamped with complaints of overflowing septic tanks. Investigation revealed that in most of the cases the septic tanks were installed in poorly drained areas. The

heavy rainfall had caused the ground water table to rise as much as two feet in some places, thus preventing any normal seepage of water from the septic tank drainfields. We've said it before and will say it again: there are a lot of places in Florida where septic tanks will not work successfully.

Amazing as it may seem, we still have many cities which allow both sanitary and unsanitary privies within their limits. (Not to mention the foul sanitary facilities that exist inside some of our slum buildings). An unsanitary privy may easily be the cause of extensive hookworm infestation in children since hookworm eggs deposited in such a privy may

be washed out some distance along the ground by a heavy rain; there hatch out and enter the feet of bare-foot children, and thence go to their intestines to live and flourish. At best a sanitary pit privy is only a substitute for safer, more acceptable sanitary facilities.

Poor sanitary facilities always help to breed flies. Fly breeding is always the result of decaying organic matter somewhere within the area. Decaying garbage and unsanitary privies can often result in swarms of flies hatching out and entering homes, restaurants and food establishments—and carrying germs from the point of their origin to the places mentioned above.

► *Old rubber tires with water in them—one of the breeders of mosquitoes.*



The following law is specific, but the small fine imposed really does not frighten those who break this law.

Section 386.06. *Water Closets; Penalty*—All water closets and privies connected with any house, building or premises, within any incorporated city or unincorporated town or village of the State of Florida, in or upon which people live, or where they congregate or assemble, or any kind of business is done, kept in a filthy and offensive condition, or from which noisome odors and noxious gases arise, and all water closets located within and being a part of any such house or building, not provided with proper sewer traps, so as to prevent the return and escape of noxious gases and offensive odors from any public or private sewer connected therewith, are declared nuisances injurious to health, and any person creating, keeping or maintaining such nuisance shall be fined not less than five nor more than twenty-five dollars.

Here again is a very inclusive statute which is limited in its use to specified areas and again most of the complaints which occur in the above conditions are located in an area which would not meet the legal classification. However, Section 386.09 does include some of the suburbs and thickly populated communities. It states as follows:

386.09 *Penalty for Violation of regulations as to surface closets (privies)*. Any person keeping or maintaining surface closets and privies used for the deposit of human excreta within incorporated limits, unincorporated towns, suburbs, and thickly settled communities which are not flyproof in construction and are not in conformity with plans recommended or approved by the State Board of

Health, shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine not exceeding ten dollars.

It might be pointed out here that such a small fine is rarely a deterrent to a recalcitrant homeowner or resident. In many instances the penalties should be more severe. In a criminal action, where the fine is only perhaps \$25.00, the time taken to prepare the suit and present it may take up a disproportionate part of the already overcrowded court's docket.

Garbage Dumps

Most people who throw away garbage in illegal places don't bother to throw it on their own property. They drive along the road until they see a likely place and dump it there. This amazingly enough, annoys the person who owns this piece of land! Such dumps are not only unsightly, but promote the breeding of rats, flies and other insects. They also produce many unpleasant odors, catch fire, and cause a smog to arise in the area, dirtying clothes, penetrating homes, and causing distress and discomfort to persons who have asthma, bronchitis, or other such respiratory conditions. The Highway Patrol is on the lookout these days for people who throw garbage along the road. People living in fringe or suburban areas sometimes refuse to pay monthly collection fees for garbage disposal and each morning carefully put all their refuse in a sack and dump it on someone else's property as they go to work.

A NUISANCE IS A NUISANCE IS A NUISANCE . . .

Nuisances are frequently not a danger to the people's health. Nevertheless, they are always nuisances to the complainant and also to the county health officer, sanitarian, or other public official who has to deal with them. The Governor probably gets more letters about nuisances than he does about the much discussed revision of the state constitution. The state health officer gets not only those sent to the Governor's office but many more. He is compelled to spend more time writing letters and making telephone calls about nuisance complaints than he is able to spend on many much more important health problems. Nevertheless, the State Board of Health and the county health departments do not dismiss such complaints lightly nor try to "pass the buck" to other agencies unless the problem is clearly in their field. Most of the requests for assistance have a sound basis even though the laws or administrative machinery do not provide a remedy. Even when the problem is not serious to the health officer it is taken for granted that it is serious to the complainant and every effort is made to solve the problem.

Industrial Wastes

The above subject could be a whole article in itself. Waste from abattoirs (slaughter houses), laundries, canning plants and the like can make life miserable, if the refuse affects you or your property. A small stream that runs by your door may be fouled; discharged waters may overflow into the street near your home. Chemical particles held in suspension in the air may sting your face, pock your car, or kill your shrubs.

An example was a complaint of white paint on houses becoming discolored. Blame was laid on smoke coming from a factory four miles

away on the other side of the bay. Investigation showed cause of trouble was hydrogen sulfide coming from decomposition of sewage in the bay. The condition was corrected upon installation of a sewage treatment plant.

★ ★ ★

We could go on indefinitely with stories of complaints about nuisances that are received by health departments. There are those citizens with legitimate complaints; those who are chronic complainers, and—we can't stress this enough—*complaints that are the result of family feuds and neighborhood fusses.*



► *Garbage dumps—unsightly, annoying, rat and fly breeders.*



Just how do you go about making a complaint about a public health nuisance to a county health department?

A clerk answers the telephone. The exact address or location of the nuisance must be given; the owner and/or occupant, the nature of the nuisance, and *the name and address of the person making the complaint*. All this information is put on an official complaint card, which the sanitarian takes with him when he goes to make an investigation. Upon his return, he notifies the person who made the complaint of what he did and of the date when he will go back to check to see if the condition has been corrected. On the specified date, he returns and again notifies the person who made the complaint of the final disposition of the case. If it has been corrected, the card is filed away for any future reference. If the condition has not been corrected, the sanitarian may:

(a) Give the owner and/or occupant more time, if he has a valid reason.

(b) Warn him that he must take action immediately or the matter will be turned over to the proper legal authority.

The latter course is always resorted to reluctantly. Education is much better than the law enforcement in such matters. The average person wants to do what is right, but sometimes it takes several visits to get him to understand why he must conform to a recommended policy.

Remember: If you are going to

report a public health nuisance to the county health department, *you must be willing to give your name and address*. Often additional information must be obtained about the complaint. To refuse to give your name and address makes one suspicious of "spite work." If it is really a health nuisance, you have nothing to fear. But the records of the county health department are, with few exceptions, public records which may be seen upon request.

Legal Machinery

Any citizen can make a complaint. Every individual has recourse to the law. He may call the sheriff or other law enforcement officers, but in order to prosecute he must sign an affidavit and agree to testify in court. This, he is often reluctant to do. He would much prefer to have the county health department do it! But

► *A makeshift sanitary facility—an old unsanitary surface privy.*



THERE OUGHT TO BE A LAW !!

The above caption is a familiar complaint to health department personnel. But it must be remembered that the ideal law is one of general application, capable of covering most situations which arise. Any attempt to cover each individual set of facts would inevitably result in statute books unworkable from the mere standpoint of size. At the same time, improvement of our laws best comes from experience. Suggestions as to how the laws we work under can be made better, how loopholes may be plugged, and the job of law enforcement for the betterment of public health made easier—are always welcome.

someone must sign the affidavit. An example is that of a woman who called the county health department to report that a company which cleaned out septic tanks had dumped the contents of one of its tank trucks on the road in front of her house. She did not wish to make a formal complaint, but it was pointed out to her that she and her neighbor, not a sanitarian, had seen the dumping act and read the name of the company on the side of the truck. She alone had the proof.

Some people feel that if a county health department does not have the condition corrected, that the State Health Officer can make the county health officer have it done. It is true that the county health departments are local representatives of the State Board of Health, but we have in Florida many excellent and well-trained county health officers and sanitarians (as well as other public health personnel) in whom we have

great confidence. A citizen can always appeal to the State Board of Health, but it has been our experience that such matters can be worked out on the local level if patience and understanding are present.

Incidentally, if the complaint you have is not of a health nature, there are many other agencies that may help you. An inquiry directed to the City Hall, the Street Cleaning Department, the County Commissioner for your district, the Dog Warden, the State Road Department—all of these and many others may be of assistance — according to what the complaint is.

If a county health department does decide that it must resort to legal action, the county attorney, county solicitor, or even the state's attorney may handle the case for them. Naturally, he will be in agreement with them that everything should be done to settle the matter amicably out of court. It is not enough for a



► *Refuse of the above type harbors rats—and is dangerous from the point of accidents.*

county health department to declare that a condition is a public health nuisance. Proof must be offered, as in any other case, that there is actual danger to health or life.

Sanitary Code

The laws that are drawn up for the guidance of county health departments and the State Board of Health, especially as they relate to public health nuisances, are found in the Sanitary Code. This book contains rules and regulations that have been passed by the governing body of the State Board of Health. This body has been given this authority by the State Legislature since the State Board of Health, by law, is responsible for the health of the people of Florida. The Sanitary Code is a large bulky volume covering many aspects

of our public health procedure. It deals with the construction of swimming pools, the specifications for septic tanks, the disposal of garbage, the formation of sanitary districts, specifications for sanitary privies, regulations for canning plants—and many other items. There are thirty-five chapters, each covering a different field of sanitation.

However, if there are local or city ordinances (laws) concerning nuisances, legal correction of these nuisances is much simpler. The person who refuses to abide by such ordinances may simply be brought before the city magistrate or judge, and the latter acts as prosecutor, judge and jury. But if the suit is brought up in county or circuit court, it requires a prosecuting attorney, is of

ten treated as a criminal offense, and frequently calls for a jury.

Prevention is Better

A tremendous amount of time and expense is spent on the investigation of public health nuisances. They really hinder the county health officer and the sanitarians on his staff from carrying out other valuable and productive work which would benefit all our citizens. Your county health department is vitally interested in any nuisance which exists within your community and stands ready to assist in securing correction of serious or annoying conditions. If your septic tank is overflowing, they will be glad to *advise you* how to fix it. If a large dog is killed on the street outside your door, they can probably tell you who to call about disposing of it, but they won't come out and get your own dead dog or cat and bury it for you.

The watchword of all public health agencies is *prevention*. If, for example, you live in a fringe area and are in the process of setting up governing regulations for your community, include the State Sanitary Code as a part of your zoning laws. This has been done with success in several parts of Florida. If you have a home in a newly-built area, surely the sense of pride you have in your home and neighborhood will help you band together with your neighbors to prevent these nuisances from becoming chronic. Voluntary correction makes everybody much happier.

Nuisances do not just happen. They are similar to accidents in that

they are often the results of someone's carelessness or indifference to the rights of others. Application of the Golden Rule would solve many a public health nuisance—or stop it before it became a problem.

What We Owe Our Neighbor

.... As good citizens we should jealously guard the health of our neighbor, and as selfish mortals we owe it to ourselves that we shall protect the life of our neighbor from disease, for in doing so we defend our own.

The man who permits a cesspool or privy vault under his neighbor's bedroom window, poisoning the atmosphere that he breathes, is as certainly guilty of a murderous act as if he assaulted him with dirk or pistol. . . . A pig sty or stable will cause the same impairment of health unless carefully attended to; and how many are looked after to prevent their becoming nuisances in every conception of the term?

.... it is only when a shock is given us or to our families, and in sorrow the full realization of personal responsibility is brought to bear upon us, do we comprehend what we owe to our neighbor in the protection of his health. His health and his life, and the health and life of his family, is as dear and precious to him as ours is to us, and a moral as well as legal responsibility rests upon each of us in this respect, particularly so as to sanitarians is the question directed, "Am I my brother's keeper?" and, in the light of Sanitary Science, *you are*.

(Florida Health Notes, November 1892)



► *The garbage cans and the stand for them are here, but not doing much good.*

► *Water standing a long time after a rain is a nuisance.*



There's Always New Ones!

This issue of Health Notes has been in preparation for a number of months; however, it may be interesting for the reader to know that in the week preceding the printing of this booklet, the following complaints were received just in the State Board of Health's central office in Jacksonville:

1. An irate citizen wanted someone to come out and remove cow manure from in front of her house.
2. A man called to have something done about some people who were using an outdoor toilet without closing the door. He felt this was indecent exposure. We agree, but this hardly qualifies as a public health nuisance.
3. Another citizen complained that her yard was a gathering place for blue jays and that they chattered so they were very annoying. She had been told by the Fish and Game Commission that they could not be shot or poisoned. She nevertheless wanted the State Board of Health to authorize her to poison them. It was pointed out to her that this might be dangerous to other animals and children. She felt very strongly that the control of chattering blue jays was definitely a responsibility of the State Board of Health and she wanted a law passed so that something could be done about it.
4. A soft voice on the telephone requested that we do something about controlling pigeons that were fouling her front walk. The police had already told her they could not be shot.



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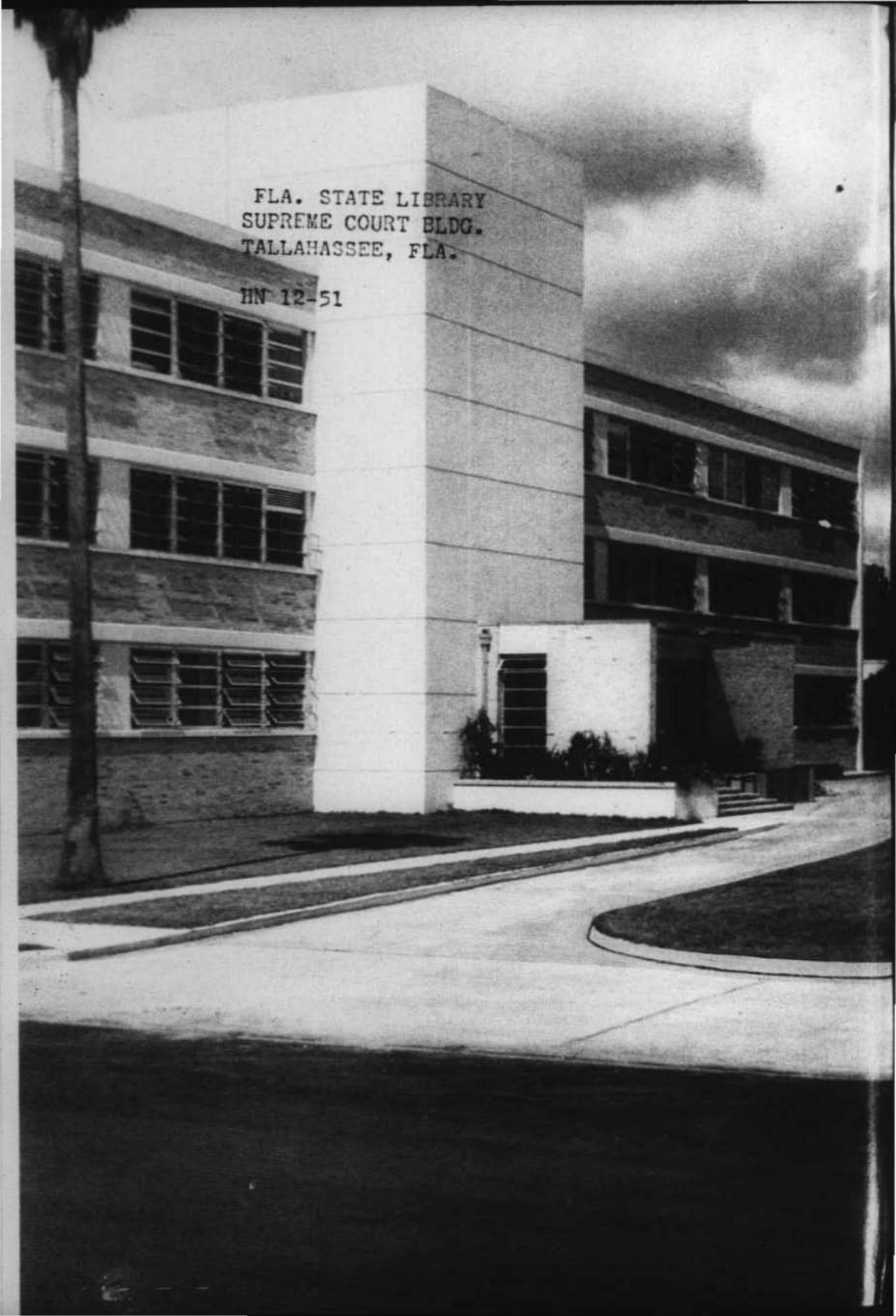
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All Counties in Florida have organized county health departments, except
St. Johns County

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Health Careers

Vol. 48
No. 4



We have a new appreciation of health today — and we need more specially trained people to help us reach our goal of longer, happier lives, free of disease. There is a greater demand for persons in health careers than ever before. The Florida State Legislature recognized this when, in the 1955 Session, they appropriated funds for nursing, medical and dental scholarships. The nursing scholarships are administered by the State Department of Education; the medical and dental by the Florida State Board of Health (All decisions, of course, are made with the assistance of advisory committees composed of persons in these professions).

The content of this issue of Health Notes is a very brief abstract, reprinted by permission from "The Health Careers Guidebook" — published by the National Health Council and supported in the public interest by the Equitable Life Assurance Society of United States. Copyright 1955." As

is always the case in abstracting material, much of the excellent detail is lost from the outstanding publication mentioned above which has been widely circulated to schools throughout the country.

It is impossible to discuss in this short space the many other openings in health work that might be of interest but we have included some of the major ones. And to be perfectly frank, we pinpointed those groups that are frequently employed by the State Board of Health and the County Health Departments.

DOCTOR OF MEDICINE

Anyone who "wants to be a doctor" should be as sure of his own mind as it is humanly possible for any of us ever to be.

Idealism, hero worship, and family tradition are all good reasons for considering a medical career, but unless they are balanced by facts, they may not provide a very realistic picture of a physician's life.



HEALTH CAREERS

Anyone who is looking toward a medical career must have a first-rate capacity for thinking and learning. Being a good student is important because medical training is long and the courses tough — and being a good physician means adding to your learning constantly throughout your professional life.

The candidate for medical school needs to do well in science — he'll be taking advanced courses in chemistry, biology, and the like. He'll need plenty of intellectual curiosity, initiative, judgment and the "stick-to-itiveness" that will carry him through his years of rigorous training.

Health is important, too. As a medical student, he will need enough physical stamina to take on five or more years of intensive study and clinical work after college. If he hangs out his shingle as a general practitioner, he will seldom be able, at least during his early years, to practice what he preaches about regular rest and

meals. He will be on call 24 hours a day, and must have endurance enough to take hurried meals and interrupted sleep in his stride.

And finally, the would-be physician should make sure that he has the emotional stability that the practice of medicine demands. A good physician not only likes people and genuinely wants to serve them, but he is also prepared to express this concern in the often difficult relations and decisions that in his profession are inescapable. It takes a special kind of attitude to deal with the human tragedies which the student begins to encounter while he is still in medical school — and which are a part of every practicing physician's experience throughout his professional life.

The proportion of women in medical schools has always been small and has increased only a little in the past 50 years. Old-fashioned and unfounded prejudice against "women doctors" is well on the way to disappearing. But the woman physician may still encounter some

reluctance to utilize her services in situations that involve irregular hours, heavy physical demands, or unusual strain.

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Medical training takes at least 8 years after graduation from high school — and from 10 to 15 years is not uncommon.

Basic education is the same for all physicians, regardless of whatever specialization may be added later.

The first step toward a medical education is taken in high school, with courses that prepare the student for college entrance. The college he chooses should be approved for premedical work — a list of such institutions is available from the American Medical Association.

In college, he should talk to his faculty adviser about courses — English, physics, biology, inorganic chemistry, and organic chemistry are required. He should also begin to look into possible medical schools.

Approved medical schools require three years of college as the minimum needed for entrance. Authorities on medical education recommend taking the full four years of college and getting a degree, because the extra year allows the premedical student to broaden his general education.

Good grades are important to the premedical student since they help him gain admission to a medical school. Only 10 per cent of the

1953 medical school freshmen had grade averages as low as "C" in their premedical college work.

At least 9 months to a year before he finishes his preprofessional training, the student should complete his applications to the medical schools of his choice. He should apply to, say, three to five schools, since local conditions and regulations may prevent the school from accepting even a well-qualified applicant. Some state medical schools, for example, accept no out-of-state students.

The medical education leading to the degree of Doctor of Medicine calls for four years of study in any one of the medical schools in the United States and Canada.

The student may take the first two years of his medical work at an approved school of basic medical sciences, and then transfer to a regular medical school for his last two years. In 1954 there were 74 fully approved, four-year medical schools in the United States.

Practically all medical students spend one or two years as an intern in an approved hospital after they graduate from medical school. Such internship is required by a few schools before a degree is granted. So-called "rotating" internships — those offering a variety of experience — are usually preferred.

If a physician intends to specialize in one branch of medicine, he must have additional training, in-

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cluding hospital training as a resident physician, in addition to internship.

Before a physician can practice, he must be licensed by a state board of medical examiners. In most states, a medical license issued by another state is recognized as a basis for licensing without further examination. A certificate from the National Board of Medical Examiners, with headquarters in Philadelphia, is accepted as a basis for state licensing without further examination by almost three-quarters of the states.

★ ★ ★

No matter what the field, paying for a professional education is a big, but by no means impossible, undertaking.

It is difficult to combine even a part-time job with medical education. Courses are so exacting that the student should count on no more than two or three hours a day for outside work.

Though the financial outlay of a medical student averages about \$2,000 a year, the cost is not always that high.

Then, too, most medical schools offer scholarships and loans to able students who need financial help. In addition, several states have special scholarship and loan programs for medical students.

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To qualify as a specialist, the physician must spend additional years in study and training for his chosen branch of medicine. Or he may prefer to go straight from internship into general practice. After a few years of varied experience, he can decide on a specialty



and take extensive postgraduate work. There are 20 recognized fields of medical specialization. Public health, for example, is itself a recognized specialty — with certification from the American Board of Preventive Medicine.

In addition to his medical degree, the career public health physician usually has a graduate degree in public health. Maternal and child health, the control of both communicable disease and chronic disease, environmental health, the public health aspects of mental health — these are just some of the activities, the opportunities, in public health.

Most public health physicians are in government health departments—local, state or federal. But some are on the staffs of voluntary health agencies.

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Financially, the physician can expect to earn a comfortable living for himself and his family — at least after the first few years. Specialists have somewhat higher incomes than general practitioners; and, in general, physicians in private practice earn somewhat more than those in salaried posts.

Yet financial rewards alone would never repay a physician for all the years and effort he has put into training, much less for what he must give every day to those he serves. His satisfaction comes from feeling that his is one of the world's most important jobs.

One well-known medical leader puts it this way: "I know of no other work which gives such soul-filling and lifelong satisfaction. I know of no other vocation that rewards its practitioners with such a feeling of accomplishment."

For further information — write to:

American Medical Association
535 North Dearborn Street
Chicago 10, Illinois

For Florida information — write to:

Florida Medical Association
Florida Theatre Building
Jacksonville, Florida

NURSES

More people are engaged in nursing and in services related to nursing than in any other group of health occupations — all told, nearly three-quarters of a million.

When you think of nursing, most of you will think of the professional nurse — the registered nurse — or, for short, R. N. She (or sometimes he) is certainly the most prominent member of this vast nursing team. But actually, the professional nurse is helped in providing nursing care and in teaching people to stay well by a host of other workers, among them

practical nurses, nursing aides, orderlies, and attendants. The team approach to nursing is particularly important in hospitals — with so many patients and so many services, it is the most practical way to meet the needs of each individual patient.

Public health nursing agencies are adding more and more practical nurses, and in clinics they are bringing in aides and attendants to help provide patient services.

Professional Nurse

Professional nursing still represents the largest single group of nursing service workers — because professional services are in more demand than those of any other occupation in this patient-care team.

Opportunities and prospects: in **hospital nursing**, opportunities for professional nurses range from general duty nurse to administrator.

Public health nursing is concerned not only with the care of the sick but with preventing illness as well.

In industrial nursing, professional nurses work for business firms and industries, and are responsible for the health of the workers on the job — and often off the job too.

In private duty nursing, the nurse contracts independently to give bedside care to patients in the home or hospital.

Nursing, like medicine, has its specialties, such as: a pediatrics nurse, obstetrics nurse, psychiatric nursing, operating room nursing, orthopedic nursing and others.



Salaries of professional nurses vary with employers, different parts of the country, and the abilities and preparation of the nurse. The median starting salary in nursing is \$2,800 to \$3,000 a year; an increasing number of positions are in the \$5,000 to \$7,500 range. Top salaries can go as high as \$10,000 to \$14,000.

Most professional nurses work a 40-44-hour week, although they cannot always expect a conventional 9-to-5 day.

The professional nurse can more or less write her own ticket as to the surroundings in which she works. Whatever setting she chooses, the professional nurse can look forward to a substantial degree of financial security. Most institutions where nurses work — hospitals, health departments, and so on — are stable and present growing opportunities. The demand for professional nurses will continue to be very large and nurses will continue to be needed in all parts of the world and in all kinds of communities.

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What qualities do you need for nursing? A liking for people is often listed as one of the qualities for a good nurse. What is important for a nurse is to like people well enough to put up with them even in their bad moments — and to help them over these bad moments. She must like people well enough to take care of all kinds of people, of all ages, and in all stages of illness or injury. Finally, she must like people well enough to work smoothly with other members of the health team — physicians, other nurses, other professional people and auxiliary workers.

Common sense, integrity, a sense of responsibility, a considerable degree of self-discipline, and a sense of perspective — all of these are important. A healthy outlook on life and good physical health are essentials.

Generally speaking, applicants must be between 18 and 35 years of age to enter nursing school, although some schools will accept students of 17 or past 35.

With increasing recognition of the need for men in the nursing profession, many schools admit men students as well as women. There are a few schools of nursing for men only.

Good mental ability, which is usually reflected in scholastic aptitude, is an important asset in nursing. For this reason, most schools of professional nursing limit their candidates to those in the top half or third of their high school graduating classes.



All schools of professional nursing require at least high school graduation for admission, and some require college work. You will want to begin planning for a career in professional nursing by your junior year in high school. Check the catalogues of at least 3 schools to be sure that you take the high school courses they require.

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Nursing schools fall into two general categories (1) hospital schools offering a **diploma program** of three years and (2) collegiate schools offering a **baccalaureate degree program** of four to five years.

Students are admitted to a diploma program upon graduation from high school. Graduates are fully qualified for general and private duty nursing.

There are two patterns of degree programs — the four-year program, which admits high school graduates and gives them their college work and nursing education as a single integrated course, and the five-year program in which

three years of nursing courses follow after two years of appropriate general education in a senior or junior college.

In a hospital school, a nursing education can cost you anywhere from your spending money alone to \$500 to cover room, board, uniforms, and laundry. A collegiate nursing education will cost more — from \$500 to \$2,000 a year for the entire program. Most nursing schools have scholarships and loan funds available for students who need financial assistance, and several states provide state funds available for nursing education.

All nursing schools preparing professional nurses today are state-approved, which means that their graduates are eligible to take state licensing examinations to become registered nurses and entitled to use the official R. N.

Practical Nurse

Practical nursing is an expanding field, attracting men as well as women — those who may not want, or may not be able to afford, the extensive preparation necessary for professional nursing.

Not long ago, anyone who wanted to be called a practical nurse could do so — but not today. **Practical nurses are trained people, and many of them are licensed.** (They must be licensed in Florida). A trained practical nurse is well prepared to give bedside nursing care to patients who are not acutely ill, and to assist the professional nurse with patients who are more seriously ill.

As the public has come to understand the valuable contributions

practical nurses make to health, the demands for their services are increasing. They are employed in hospitals, public health agencies, private homes, physicians' offices, clinics, nursing homes, and institutions like psychiatric or children's hospitals which specialize in the care of one type of patient. As a practical nurse, you can look forward to a secure employment future. It has been estimated that 60,000 new practical nurses could be employed each year if they were available.

Salaries are not yet stabilized but, generally speaking, practical nurses receive two-thirds to three-quarters of the going salary for professional general duty nurses in the area — your fee may range from \$6 to \$11 a day in a private home. In hospitals and health agencies you will usually work a 40 to 44 hour week.

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The age limits for admission to a school of practical nursing are generally from 17 or 18 to 50. Common sense and good health will stand you in good stead, as will a willingness to accept and carry responsibility, the ability to get along well with other people and the desire to work cooperatively. Men as well as women are eligible. If you are under 25, you will need at least two years of high school education and preference will be given your application if you are a high school graduate. (For those over 25, these requirements are somewhat modified.)

Practical nursing schools are operated by hospitals, by private community agencies and by public

vocational schools. Most approved schools of practical nursing offer a 12-month course. Tuition charges for a practical nursing course vary from nothing to around \$175 to \$200. Scholarships are available in many schools of practical nursing to cover the cost of the program.

It is important that you select an approved school of practical nursing. As with professional nursing, states are now establishing laws of various kinds to regulate the preparation for and practice of practical nursing. Hospitals and health agencies will often give preference to practical nurses who have graduated from an approved school.

For further information — write to:

**National League for Nursing
Committee on Careers**
2 Park Avenue

New York 16, New York

For Florida information — write to:

**Florida State Board of Registration
and Nursing Education**
230 W. Forsyth St.
Jacksonville, Fla.

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SANITARY ENGINEER

The sanitary engineer is interested in people and in their health. He holds an engineering degree and practices one of the many specialties within the profession of engineering. The distinctive mark of this specialty is that it combines engineering training and ability with a broad knowledge of the health sciences — the biological sciences, chemistry, physics, psychology and sociology.

He is concerned with problems of public, as contrasted with individual, health — and, in promoting public health, his four main interests are in the influence of: AIR, WATER, FOOD and SHELTER. His aim is to safeguard these aspects of man's environment — to eliminate the hazards that can be eliminated; to control those which cannot be; and beyond this; to get the maximum benefit out of all the environmental influences in the interests of public health — of more healthful living conditions for everyone.

It is the sanitary engineer who, among other things, is responsible for: the satisfactory operation of water supply systems and water purification processes; the proper operation of incinerators to assure safe and economical disposal of garbage; the proper design and operation of milk pasteurization plants; the control of insects and rodents; and the setting of standards for safe and healthful public housing.

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Sanitary engineers must possess two distinct educational qualifications: first, a full four-year engineering course with major study in sanitary or public health engineering, or with a sanitary engineering option in civil engineering; second, specialized training in the sanitary sciences, which includes an intimate knowledge of chemistry, physics, and the biological sciences.

The degree granted for entrance into the profession of sanitary engineering may be either a Bachelor of Science in Civil Engineering or

a Bachelor of Science in Sanitary Engineering. Sanitary engineers should be registered or licensed under the registration laws of their states.

Sanitary engineering is one of the most promising careers in the health field. New fields still in the process of evolving — air pollution control, radiological health engineering, and the like — present extraordinary and exciting problems. The present supply of qualified sanitary engineers is extremely limited, and the young college graduate who enters the profession in the near future will have an unusual range of opportunities.

Of the sanitary engineers employed by government agencies, federal, state and local, the largest number work either in public health agencies or in public works agencies. A number work in industry or are private consulting engineers.

Well-trained, experienced sanitary engineers usually earn from \$6,000 to \$8,000, and positions of key responsibility pay around \$10,000 or more. Beginning salaries were around \$4,000 a year in 1954.

SANITARIAN

The sanitarian serves as the eyes and ears of the health department in connection with its environmental responsibilities. He is interested in solving many environmental health problems — largely biological and chemical — where engineering skills are not a primary requirement.

One of his major duties is to assist public health officers by making safety and sanitation in-



talk before civic organizations on the essential facts of good environmental health conditions.

Young people who look forward to getting to the top as sanitarians should count on taking four full college years and getting a Bachelor of Science degree. In most health departments, a beginner ordinarily earns about \$4,000. Experienced and well-qualified sanitarians may have annual salaries of from \$5,000 to \$8,000. Recent surveys show that many local and state health departments have openings for well-qualified professional applicants. In addition, there is a sharply increasing demand for sanitarians in industry.

Environmental health is on the threshold of rapid development. For those who recognize the opportunity of the sanitarian's career, it will prove interesting in itself and it may also turn out to be a gateway to related jobs in the scientific field.

For further information — write to:

**American Public Health
Association**

1790 Broadway

New York 19, New York

For information in Florida —
write to:

**Bureau of Sanitary Engineering
Florida State Board of Health**

Jacksonville 1, Florida

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MEDICAL TECHNOLOGIST

This is a spot in medicine and science where women have a head start. But there is a place for men, too. The medical technologist works directly under the super-

specions of all kinds of buildings, including dairy plants, sewerage plants, sewage systems, schools, and industrial plants. He gives training courses on the proper handling of food — he teaches how to protect food from contamination and how to preserve it properly during storage. He checks on the chlorination and filtration of the water in swimming pools, surveys housing developments and interprets and enforces sanitary laws and regulations.

His purpose is to see that our daily environment is as clean as possible — and that takes in everything from the food we eat and the houses we live in to the places we work or play.

The sanitarian has many duties which require basic training in chemistry and biology — for example, collecting specimens of milk or food for analysis and helping to track down the source of widespread contamination.

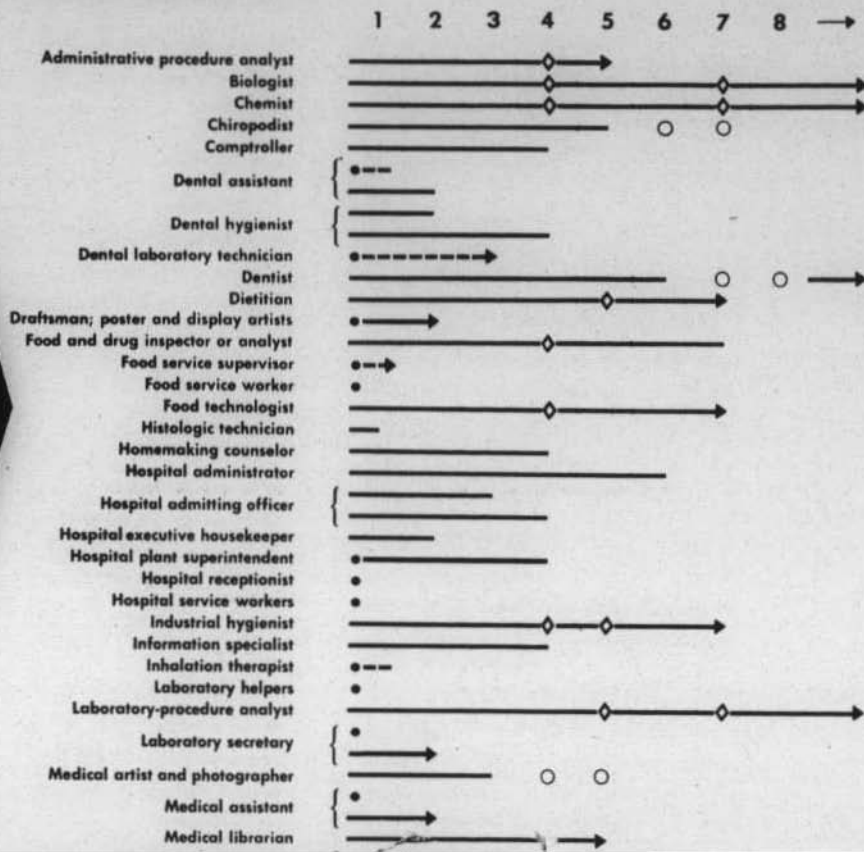
He may take part in training courses for employees who need to be informed about the sanitary aspects of their own jobs and also

This calendar gives you a quick check on how many years of education, after high school, you should count on for the representative health occupations listed here. The lines and symbols show what is customary—some people take only minimum required training; many take more.

HEALTH CAREERS Calendar

- This kind of work requires no special training beyond what you can usually get in high school.
- — After starting, you serve an apprenticeship or get similar organized on-the-job training.
- Lines and symbols used with them indicate full years. To start requires special training either in college, in a hospital or

*After you are graduated
from high school
these health careers take
this training—figured in years*



Special training is required, but you have a choice, each type of training taking a different number of years.

◆ First symbol means you can get beginner's job after college, but will usually need more study, as well as experience, for advancement. Graduate training ordinarily goes to or beyond master's or doctor's degree.

→ Your planning should look beyond minimum requirements; continuing study, after entering professional practice, is important to further advancement.

○ Though the line shows minimum to qualify, more pre-professional years in college often lengthen the total training time.

-(9m)- Length of training is shown in months.

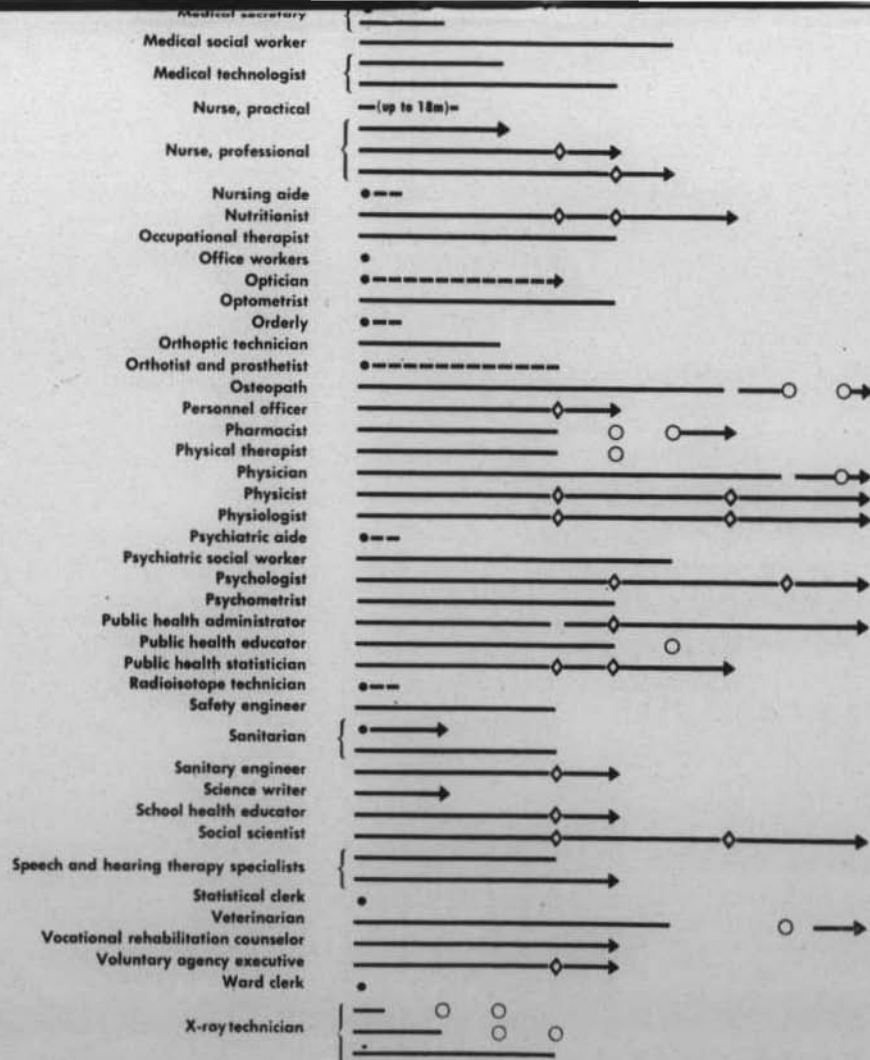
The calendar pictures training information in condensed timetable form. To get a more detailed picture . . . read the HEALTH CAREERS GUIDEBOOK Briefings . . . consult your school advisers for information and personal guidance on training and the local outlook for the career you want.

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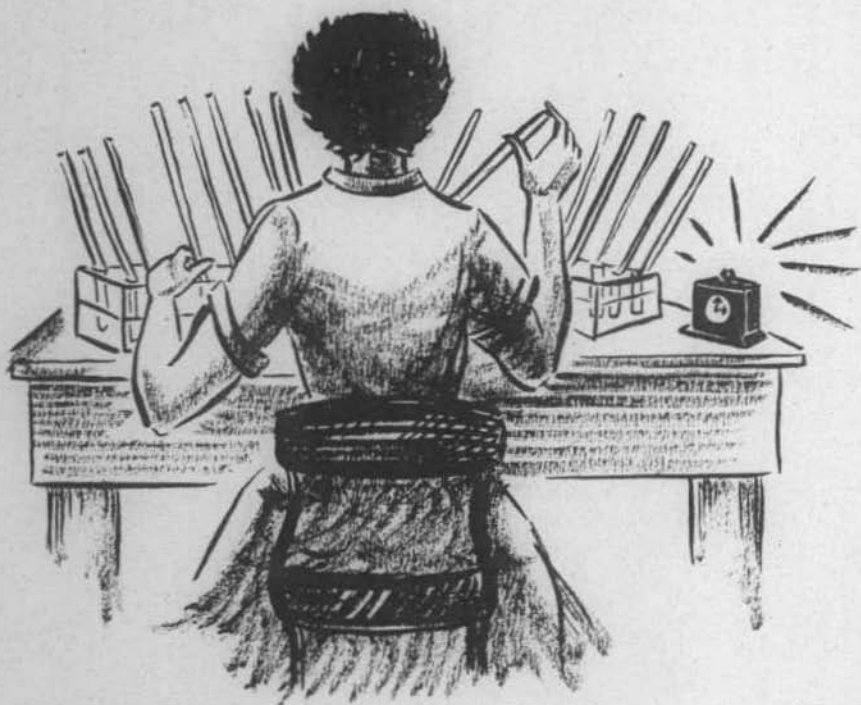
sion of a physician and helps him by carrying out a variety of laboratory procedures. Technologists are also trained to operate some kinds of special apparatus. They may, for example, give basal metabolism tests or operate the electrocardiograph.

You could call this a medical fact-finding job. The technologist digs out information and gives it to a qualified physician.

Anyone planning a career in medical technology should be good in science subjects, should like to work in a laboratory and be naturally neat and accurate. Also needed is the ability to do careful, reliable work.

Physically, medical technologists must be skilled at using their hands, since they work with small instruments and delicate equipment. Good general health, normal vision, and ability to distinguish fine shades of color are necessary assets.

The minimum education needed to become a registered medical technologist is graduation from high school, followed by two years in college and one year in a training school approved by the Council on Medical Education and Hospitals of the American Medical Association. But young people would be well advised to finish the regular four years of college and get a degree, in addition to—or in com-



bination with—the year of specialized training.

Your high school studies should prepare you for entrance to an accredited college, and, even in high school, courses in chemistry and biology are essential. During college years, pre-technology students must take additional work in the sciences. At the end of two years, they are ready to begin training in one of the nearly 600 approved schools of medical technology located in hospitals, medical schools, or state boards of health. Tuition fees are not charged by a majority of these medical technology schools.

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A majority of today's medical technologists work in hospitals. But the hospital is not the only field of employment.

Skilled laboratory workers are also in demand by: private physicians, public health laboratories, private laboratories, medical research projects and companies which manufacture drugs, serums, vaccines and antibiotics.

In 1953, three out of four registered medical technologists had incomes ranging from \$250 to \$400 a month. Naturally a beginner's income is less than that of the highly experienced worker.

Incidentally, a career as a medical technologist is especially suited to women who want to work part time after marriage. About 10 per cent of all medical technologists employed in hospitals work less than 25 hours weekly.

For further information write to:

**Registry of Medical Technologists
of the American Society of
Clinical Pathologists**

P. O. Box 1209
Munice, Indiana

For information in Florida —
write to:

**Bureau of Laboratories
Florida State Board of Health
Jacksonville 1, Florida**

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NUTRITIONIST

The nutritionist is, in practice, an educator. She is concerned with teaching people about food needs and with helping special groups of people get adequate diets in terms of their particular needs.

Sometimes the nutritionist works directly with people, individually or in groups. Also she often supplies nutrition information for health agencies, radio and TV programs, or a newspaper column.

Equally important, the nutritionist "teaches the teachers". Through consultation with physicians, social workers, public health nurses, dental hygienists and similar professional groups, many more families can be reached than would be possible if the nutritionist had to work alone. Nutritionists also take part in community surveys and studies relating to the food customs and needs of their communities or of groups who have special problems.

Nutritionists work mainly in government and voluntary agencies concerned with community



health or with the needs of special groups—for example, children, needy old people, or those who have a health handicap.

Today there are not enough nutritionists to go around. They will be sought for years by public health agencies and, in fact, by all kinds of organizations. The salary range varies considerably from place to place. In 1953, \$4,000 to \$6,000 a year was the range for experienced nutritionists.

Both dietetic and nutrition education appeal to young people with: a potential quality of leadership; a liking for people and the ability to get on well with all kinds; a real enthusiasm for good food and an appreciation of cookery both as a science and as an art; an interest in teaching; a special aptitude for science; the physical strength to work hard and "to practice what what one preaches" and look the picture of health.

Another requirement common to all these nutrition careers is college education. The college major is home economics, with special

emphasis on foods and nutrition and related sciences.

For further information—write to:

The American Dietetic Association
620 North Michigan Avenue
Chicago 11, Illinois

For information in Florida—write to:

Division of Nutrition
Florida State Board of Health
Jacksonville 1, Fla.

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DENTIST

The dentist's job is basically two-fold: to treat ailments or abnormalities of the gums and teeth; and to try to prevent their occurrence or recurrence.

For the good reason that tooth and gum troubles may be either the cause or the effect of troubles elsewhere in the body, the modern dentist is always interested in the patient's general health, as well as the condition of his mouth.

Most dentists are in private practice but there are also a good many who have taken additional professional training in a specialty field and whose practice is devoted mainly to specialized dental work.

One specialty is public health dentistry. This aspect of dentistry places major emphasis on promoting the preventive aspects of dental care and on the education of the public to the importance of dental health and all the services which maintain it. The health departments of most states and many



localities, as well as the U. S. Public Health Service, carry on programs of this kind.

Anyone considering dentistry as a career should ask himself two questions: Do I make good grades, especially in the sciences? Have I good eyes and skillful hands? Both answers should be "yes".

In addition, the would-be dentist needs to be in good health to undertake his exacting profession; and he should have a genuine liking for people.

There is no reason why young women should not go into dentistry. She has a good chance of success in private practice—especially in children's dentistry—or in public health service.



Applicants for entry into dental school must have a minimum of two years at an approved liberal arts college. This means a background of college entrance courses in high school and a good scholarship record through both high school and college.

All dental schools in this country offer a professional course covering four years and leading to a degree of Doctor of Dental Surgery (D.D.S.) or Doctor of Dental Medicine (D.M.D.).

Before a dental school graduate can practice, he must pass an examination given by the board of dental examiners in his state.

The dentist will be working in a highly respected profession and he will have the inner satisfaction which comes from bringing healing and well-being to people. He can count on a long period of usefulness and he can earn a good living for his family.

Certainly he can be sure that his services will continue to be needed—there just aren't enough dentists to provide care for our present population. As far as financial returns are concerned, dentists in private practice—like all self-employed people—have a wide range of income.

Taking a staff post in a health agency may not offer the potential earnings of private practice, but it does have the advantage of substantial economic security. An added advantage is the opportunity for promoting good health through broad-scale community service.

For further information—write to:

American Dental Association
222 East Superior Street
Chicago 11, Illinois

For information in Florida—write to:

Florida Dental Society
706 Professional Bldg.
Jacksonville, Fla.

VETERINARIAN

Nowadays, the veterinarian has the basic responsibility for keeping animals healthy and taking care of them when they're sick or injured—but he also has become a key figure in disease prevention among human beings. This is one of the newest developments in the health field, and helps explain why veterinary medicine today is a career with wide opportunities for service.

His observations, research, and treatments have been applied in bettering man's health—in the fields of surgery, internal medicine, cancer, tuberculosis and chronic diseases. And he plays an important part in protecting human beings from the various diseases that can spread from animals to man—such as rabies, brucellosis (undulant fever) and trichinosis.

To be successful in his chosen career, the veterinarian needs a combination of natural gifts and technical training. He must be fond of animals and feel no fear when working with them. He needs to be an alert observer and steadiness and calmness are also important.

The prospective veterinarian must be a good student and should be particularly interested in scientific studies. Physical stamina and strength are essential. Girls who really want to become veterinarians shouldn't be discouraged from taking up this career—some women have been highly successful.



Anyone planning to become a veterinarian should figure on a minimum of six years of schooling after graduation from high school. He must have at least two years of pre-professional study at a liberal arts or agricultural college. He then enters an approved college of veterinary medicine, which gives a four-year course leading to a degree as Doctor of Veterinary Medicine (D.V.M.). In 1954, there were 17 approved veterinary schools in the United States.

After the student is graduated from a college of veterinary medicine, he must obtain a state license before he can practice. This is granted after he has passed an examination given by a state board of veterinary medical examiners.

A majority of veterinarians—an estimated 60 per cent—go into private practice, usually in a farming community. However, the veterinarian fits with special ease into the public health field because he has been trained to consider diseases as they affect animals in groups. Prevention rather than

treatment is stressed — and prevention is the keystone of public health. More than 15 per cent of all veterinarians work directly in the public health field — for the Federal Government, state or local agencies.

Whether a veterinarian goes into private practice or takes a salaried post, he is entering a profession with high standards of service.

Earnings in private practice vary widely — veterinarians in cities ordinarily have larger incomes than do those in rural communities. Salaries in state and local health departments vary considerably.

For further information — write to:

American Veterinary Medical Association

600 South Michigan Avenue
Chicago 5, Illinois

In Florida, write to:

**Division of Veterinary
Public Health**

Florida State Board of Health
Jacksonville 1, Fla.

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PUBLIC HEALTH EDUCATOR

For a number of years, public health educators have been at work — in voluntary and official health agencies, and, more recently, in hospitals, clinics, and industries.

Because the public health educator is a specialist in the technique of getting health facts accepted and used, he works closely with all kinds of community groups. He serves as a psychological stage setter — stimulating

people in the community to recognize health problems and to work for their solution. Within his own agency, the public health educator is called on to apply his special educational skills.

Public health educators make up a relatively new profession and, consequently, individuals with many kinds of backgrounds have been and are now working as public health educators. Some were at one time in nursing, teaching, environmental health and similar occupations.

Today, the requirements for becoming a qualified public health educator are more exacting. Anyone preparing for a career in this field should start with the regular four years of college leading to a bachelor's degree. A blend of broad, solid courses is necessary. You should gain some knowledge of science and develop skills in communications and public speaking, in leadership techniques and group work, in education, and in public administration.

Health education is filled with variety, with opportunity for service to one's community, with the challenge to create new ideas and approaches, and with the stimulation of joining in the activities of people both in the health professions and in the community at large.

Because this is still a growing profession, you will not find a public health educator in all health departments. But there is an increasing demand for qualified public health educators — men and women — in local, state and federal health departments, in inter-

national health programs, in voluntary health agencies, in agricultural extension services, in hospitals and clinics and in industry.

Beginners with adequate training for public health education may expect to start at around \$3,600. The middle range is around \$4,200 in public agencies and probably a little higher in those under private auspices.

For further information — write to:

**Society of Public Health
Educators**
1790 Broadway
New York 19, New York

For information in Florida — write to:

**Division of Health Information
Florida State Board of Health**
Jacksonville 1, Florida

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MENTAL HEALTH CAREERS

Everyone has a stake in mental health services — and communities throughout the country are working to strengthen them. The purpose of these services is to diagnose and treat mental illness — and, still more important, to forestall it wherever possible.

Psychiatry, psychiatric nursing, psychiatric social work, and psychology are the major professional fields within the mental health partnership. Other specialized workers have a place in the team — the occupational therapist and the psychiatric aide, for example.

Along with prevention and treat-

ment, an important part of the mental health work is research — to find out what promotes mental health or causes poor mental health.

Health departments, in particular, are taking more and more responsibility for promoting mental health. The public health nurse, for example, is in a key position to spot early danger signs because she works with so many people.

In recent years, a kind of two-way exchange has been taking place — with a number of public health officers and nurses getting special mental health training, while some psychiatrists, clinical psychologists and psychiatric social workers are rounding out their specialty with training in its public health aspects.

The Psychiatrist

A physician who wishes to specialize as a psychiatrist usually seeks certification from the official accrediting body for this particular specialty.

The psychiatrist's preparation for leadership in mental health starts with his basic medical training and is fortified by specialized medical training in all the physical and emotional interrelationships of mental illness.

His province covers the study and treatment of individuals with such serious mental and emotional disturbances that they may develop physical symptoms or lose the capacity to lead rational lives.

He is equally concerned in helping people overcome emotional disturbances before they become serious and, even better, to forestall such difficulties.

A mental health team is usually made up of a psychiatrist, psychologist, psychiatric nurse and psychiatric social worker.

The Psychologist

Psychology is the science of human behavior. By studying and analyzing "why we behave like human beings," it seeks to predict how people will react in given situations. It is a highly specialized science.

As distinguished from psychiatry — which is a branch of medicine — psychology is a non-medical science. As distinguished from psychiatric social work, psychology looks first at the individual and his reaction to circumstances — family, job and so on. The psychiatric social worker turns the problem around — looking first at the individual's surrounding circumstances and relationships.

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Anyone who looks forward to continuing advancement in the field of psychology cannot stop with a master's degree.

More and more positions are open only to men and women who have at least four years of graduate training in psychology, including a Doctor of Philosophy (Ph.D.) degree, together with at least one year of internship to provide supervised clinical experience.

In psychology, specialization comes mainly in the graduate years. A good start in mathematics, science and possibly foreign languages is helpful and high school is not too soon to begin.

In addition to biology, physiology and other physical sciences, mathematics and statistics, the

social sciences, literature, art and philosophy are all helpful. Training in writing and speaking is important for much of the psychologist's work will involve getting ideas across to other people and sometimes to the general public.

Like many other health careers, a career in psychology demands maturity, skill in understanding and interpreting abstract ideas and in explaining them clearly and convincingly, a real interest in people and the gift of dealing effectively with those who are difficult and disturbed.

Though the psychologist's training is long and rugged, it does have advantages for promising students. Help in financing graduate training is available from various sources, among them, several extensive government programs. In this field as in most others, graduate students can get part-time jobs and useful experience as teaching or laboratory assistants.

Prospects

For fully qualified psychologists, the health field offers a wide range of opportunity — in general and psychiatric hospitals, in mental health clinics and centers for the rehabilitation of the handicapped, in federal and state public health agencies, in schools and community health services, in the health programs of large industries, in group practice, and in private practice.

Geographically, the spread is country-wide, but by and large psychologists work in good-sized cities rather than in small towns.

With a middle salary range of around \$6,500 a year and a top

level of \$10,000 or more, fully qualified psychologists — the Ph.D.'s — are pretty well paid.

Like workers in most other health occupations, well-qualified psychologists can count on a better-than-average prospect of financial security once they are established.

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Psychology is basically a research profession, and the psychologist is in large measure the research member of the mental health team. Psychological research is continuously contributing to improvement in methods of diagnosing and treating mental health problems, or still better, preventing them.

Perhaps the most familiar products of psychological research are what most of us think of as mental

tests. When you speak of someone's I. Q., for instance, what you really mean is his intelligence quotient as determined by psychological measurement. Every practicing psychologist combines skill in giving and interpreting tests with all the other professional skills involved in interviewing, diagnosing, and providing constructive guidance.

For further information — write to:

**The American
Psychological Association**
1333 Sixteenth Street, N. W.
Washington, 6, D. C.
In Florida, write to:
**Bureau of Mental Health
Florida State Board of Health**
Jacksonville 1, Fla.

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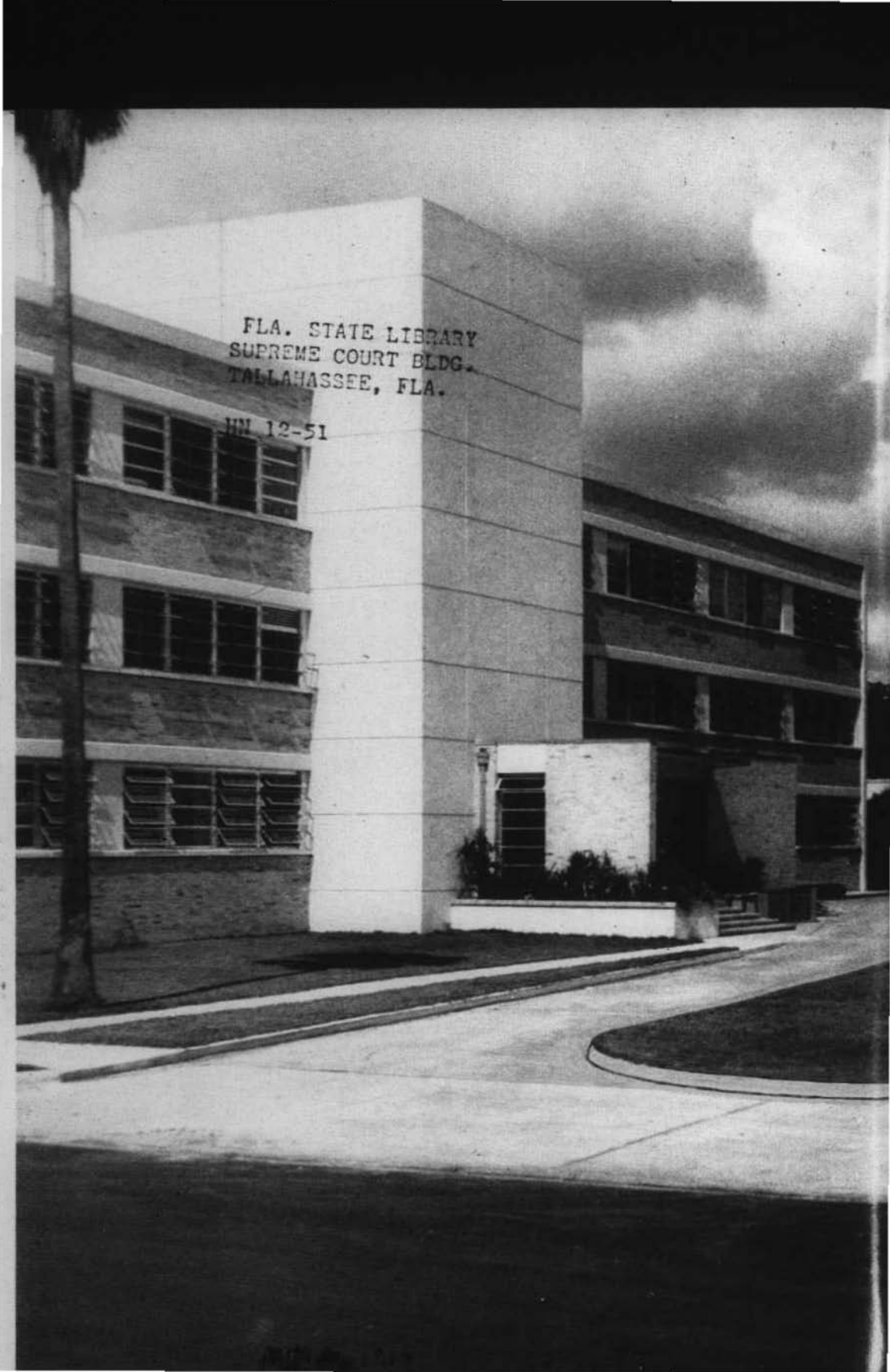
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May
1956

Hospital Service for the Poor

Vol. 48
No. 5

*A BROKEN LEG WON'T
WAIT AND*



. . . there is no substitute for good hospital care when you have a broken leg.

Hospital Service for the Indigent

Unlike the weather which nobody ever does anything about, Florida has a much discussed problem about which something has been done.

This problem concerns a sizeable segment of her population. Some of these individuals, for various reasons, have to have public assistance, usually from the Welfare Department, in order to obtain the necessities of life—food, shelter and clothing. Others are able to “make a living” but that living will not provide for any emergencies. Still others are living on small fixed incomes (retirement pay and the like) and these incomes will not stretch to take care of the unexpected.

However, illnesses, accidents, suffering and pain play no favorites. Such misfortunes never take into account the fact that a person simply may not be able to afford illness or an operation.

Physicians give generously of their time and skill to people who cannot pay them for their services. But what of those cases which cannot be cared for at home? What of those who must have hospital care? Who will pay their hospital bills?

That was the problem. To help solve it a new service was started for the indigent people of Florida on January 1, 1956. It was called Hospital Service for the Indigent.

THE MOST IMPORTANT BUILDING IN TOWN

For those in urgent need of hospital services, the hospital is the most important building in town. For the rich or poor it is a haven of new hope and healing.

In essence, a hospital is a corps of trained persons and a site for complex technical equipment and supplies available day or night to help relieve distress and suffering. Everyone agrees that ideally its services should be denied to no one in real need of its help.

But hospitals, like individuals, must “make ends meet.” Providing effective services made possible by modern medical science is an expensive business. The hospital must look to the people she serves to support her so she may go on serving.

FLORIDA HEALTH NOTES

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HOSPITAL DOORS ARE NOW OPENED



TO MANY MORE



IN NEED OF CARE

And cost of hospital care is increasing. According to the figures of a well-known hospital authority, cost of hospitalization has increased more than 30 percent in the five year period, 1950-1955. The average cost per case has increased in that time from \$98.86 to \$134.66.

As cost of operation increases, so does demand for hospital services by the people. One in every eight persons in our country will enter a hospital in 1956, as compared to one in every 16 persons twenty years ago.

WHY IS HOSPITAL CARE SO COSTLY?

Did you ever think to compare the cost of a hotel room with your hospital room and then compare the difference in the services you receive in each?

In a hospital you get 24 hours of personal attention and meals in bed. For every hundred patients in a hospital there are about two hundred employees. Even though they may not be called upon for every patient, they must be ready, for if the need arises their services may be vital.

Consider what happens to that dollar you pay your hospital. About 54 per cent of it goes for "professional service" departments, such as nursing, operating room, pharmacy and laboratory. Costs for these services rise with each advance in medical science.

About 33 per cent of the hospital dollar is spent in the "general service" departments, such as dietary, housekeeping, laundry and maintenance. For you must have correct food, comfortable bed, clean linen and neat surroundings.

The remaining 13 per cent of your dollar goes for essential modernization and replacement of plant and equipment.

The around-the-clock care you require to protect your life and health is **expensive**.

The Florida Medical Directory of the Florida Medical Association shows that the state in 1956 had 160 hospitals, providing 27,207 beds and 2,236 bassinets. Reimbursable cost of operation statements reveal that it **costs**, on the average, \$20.00 per day to care for each and every patient admitted to those hospitals.

Therefore hospital bills **must** be paid if they are to continue to give care and treatment. Who has been paying the bills for those who could not pay their own?

In most instances the hospital absorbed the cost and passed it on to other patients who could pay—an unsatisfactory taxing of the sick. It is hoped the Hospital Service for the Indigent plan will help correct this situation.



► *Ambulance service is often necessary.*

WHAT IS IT?

Hospital Service for the Indigent is a program to provide hospitalization for medically indigent persons (those unable to pay medical and hospital bills). It is for such a patient who is acutely ill or injured, who needs hospitalization and who can be helped markedly by treatment in a hospital.

The Florida Medical Association has long been deeply concerned about the problem of hospitalization for medically indigent persons. In April, 1954 the House of Delegates of the Medical Association adopted a report to be sent to the Governor, asking that he appoint a study committee to consider the problem and make recommendations.

As a result of these recommendations, the 1955 session of the Florida Legislature created a jointly financed and administered State-County program, designed as Hospital Service for the Indigent.

The Act creating the service designated the Florida State Board of Health as the body to administer the program and to adopt such rules and regulations as would be necessary for carrying out the service.

CARE WHEN NEEDED

Although, as this is written, the program is only three months old, perhaps you would like to know a bit about some of the cases who have already received care under the plan.

A wide range of illnesses, accidents and ages is represented. For example, a white woman of 72 years was admitted to a hospital and successfully treated for a strangulated hernia; another example was a small negro baby girl, age two, who was hospitalized and treated for meningitis.

An example of cases admitted in conditions of extreme pain is that of a middle aged woman suffering from acute cholecystitis (gallstones), which necessitated an operation.

Accidents, of course, account for a large share of cases needing immediate aid. In addition to the ever-present traffic cases, home accidents take a heavy toll. One county reports a young housewife who made the all too common mistake of pouring gasoline on a fire which was reluctant to burn. Result—severe burns over the entire body, long hospitalization and death.

An unusual case in these modern days was that of a housewife, aged 39, white, who was hospitalized for a severe case of anemia caused by a large infestation of hookworms.



► *The hospital's emergency room, staffed by competent doctors and nurses renders fast skilled service.*

Another report tells the story of treatment and hospitalization of a young boy, age 10, who suffered an attack of acute rheumatic fever, complicated with an anemic condition.

And so it goes. All ages and all kinds of bodily injuries and ailments have been and are continuing to receive expert diagnoses and best of care under the new program, regardless of their ability to pay for same.

HISTORY IN BRIEF

As stated before, the Florida Medical Association was the prime factor in bringing about the Hospital Service for the Indigent program.

In their report, adopted by the House of Delegates of the Florida Medical Association on April 28, 1954, they state, "The problem of providing hospital and medical care for the indigent has been a major concern of the medical profession and **is not one that can be solved by insurance.** The American Medical Association believes that indigent medical care responsibility should be assumed by the local and state government." The report continues, in part:

"Means of providing hospital services for the indigent citizens of Florida are not available in many counties. Hospitalization costs for the indigent are frequently absorbed into general hospital expenses, and therefore, increase the cost of hospitalization for all.

"Those hospitals with medical postgraduate training programs could best provide care for the indigent if there were some means of financing the costs, but all approved hospitals in the state could participate in the program.

"A fund for indigent hospitalization could be provided by a state appropriation to be matched by each county in proportion to the county's population and per capita wealth." The report concludes with the recommendation:

"Therefore, it is recommended, that the Florida Medical Association through its Board of Governors, at its discretion, request the Governor of Florida to appoint a commission to study the problem of hospitalization of the indigent in Florida and make recommendation for a legislative act to provide hospitalization for the indigent."

The committee was appointed and duly reported its findings to the Governor.

THE COMMITTEE'S FINDINGS

In its "Report of Committee on Indigent Hospitalization," the committee pointed out that indigent persons of Florida (those on the welfare rolls) comprise 2.6 per cent of the population, or 91,123 individuals. An estimate of the medically indigent who are

able to provide their necessities until they become seriously ill and require hospitalization is more difficult to make, but the percentage of families with a yearly income under \$1500 is some indication (about 1,000,000 individuals in 1949).

The over-all summary of the committee's findings were:

"It is clear that no adequate system exists in the state for county payments to hospitals for care of the indigent. Except in a few counties, payment for indigent care is entirely inadequate to meet the need. The indigent hospital load is frequently borne by hospitals outside the indigent patient's county of residence, by increasing costs to patients paying their own bills and to the taxpayers.



► *Most hospitals today have excellent x-ray facilities. Many take a routine x-ray of the chest on admission in order to detect unknown tuberculosis.*

The effect of the present inadequate manner of providing hospital care for indigent in Florida are:

- (1) Poorer health for the people of Florida.
- (2) Unequal tax burden for indigent medical care
- (3) Increased cost of hospital care for all

The injustice and inadequacy of the present method (or lack of method) for providing hospital care for Florida's indigents is aggravated by the thousands of new citizens who enter the state each year.

The problems of indigent hospitalization have been thoroughly studied in several states of the union and a careful study of their reports and subsequent systems of operation reveals that a state fund with county participation is the most successful means of providing hospital care for the indigent and improving the hospital medical care for all citizens of the state. Provisions should be made to take advantage of any federal monies for participation in state-wide indigent hospitalization programs if they become available."

THE COMMITTEE'S RECOMMENDATIONS

As a result of its study on the present situation in Florida and of programs in effect in other states, on February 1, 1955 the Committee made the following recommendations:

1. Under provisions of the Florida Constitution, Article XIII, Section 3, the State Legislature by general law should provide a uniform system for hospitalization of the indigent by creating a state fund out of which payments may be made directly to hospitals for the costs of caring for certified indigent.

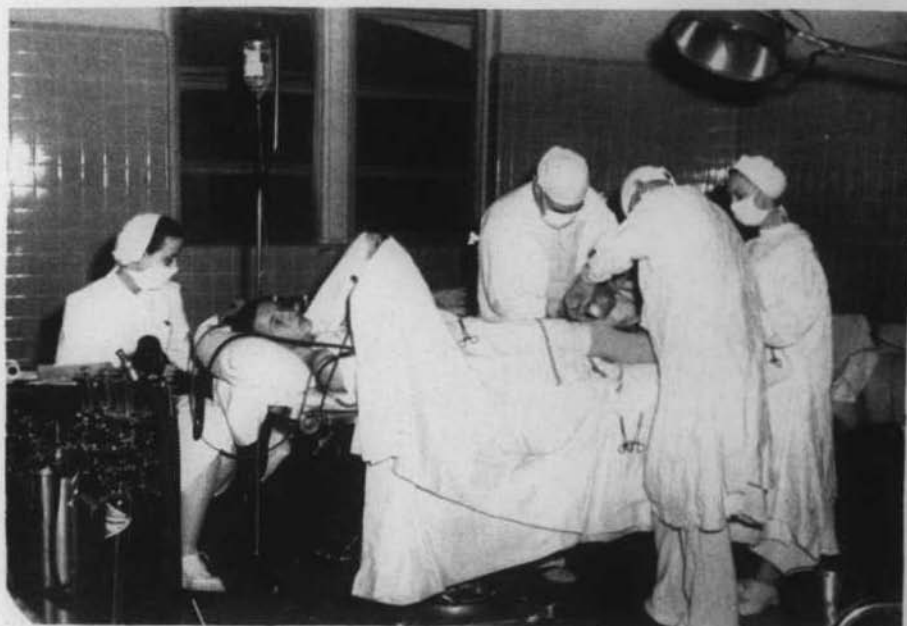
2. Fifty percent of the fund should be provided by the state from general revenues and fifty percent from county matching funds. The total amount of the fund should not be less than one dollar per capita per year.

3. Counties should be eligible to receive monies from the state portion of this fund only after expending an equal amount for hospitalization of the indigent and may not exceed their per capita share of the state fund. Payment for the costs of providing hospital care for acutely ill indigent by approved hospitals should be paid from the portion of the state fund due the county of residence of the indigent.

4. The state should not intend or be obligated to provide hospitalization for all indigent of the state through the fund created by this act, and the administration of this fund should not interfere with existing or future county plans for providing hospital and medical care for their indigent.

5. The funds created by this act should be used primarily to pay hospitals for care of acutely ill indigent and first priority for payment should be given to reimburse hospitals for the cost of hospital care provided acutely ill indigent not resident in the county. Each county should be encouraged to provide and finance its own facilities for the chronically ill.

6. An adequate amount of the state fund should be held in reserve to provide for hospital care of out-of-state indigent and this act should provide for the acceptance and use of federal funds in the event they become available for hospital care.



► *A modern operating room aids the surgeon in exercising his special skills.*

7. The act creating this fund should outline the purposes for which the fund is created and the general manner in which it shall be administered, leaving the details of administration to regulation of the administering state agency.

8. The determination of indigency of an individual receiving hospital or medical care should be by the usual agency performing that service in the county of residency of the indigent providing that agency is approved by the State Board of Health.

9. The administering state agency shall approve the county agency, preferably with medical personnel who can cooperate with local and county physicians and agencies in determining need for hospitalization, indigency and disposition of the indigent sick. The State Board of Health is the only agency which seems qualified to handle this program.

10. An advisory committee for administration of this state fund for indigent hospitalization should be appointed representing all agencies and professions which will be concerned with this program, including the public, hospital administrators and the medical profession.

ENACTED LEGISLATION

Acting on the committee's report, the Governor of Florida sponsored to enactment by the 1955 Florida Legislature a Bill incorporating the committee's principal recommendations. Thus was created the Hospital Service for the Indigent program, under the State Board of Health.

Each county that elects to participate in the program creates a "Hospital Service Fund for the Indigent" and annually contributes to that fund not less than 50 cents per capita. The law provides that the county's contribution be matched by state appropriated funds with a limitation that the state contribution not exceed 50 percent of the total cost of the program of each participating county.

However there arose difficulty with funds available for the program. The Legislature was unable to appropriate the \$3,000,000 requested to match the anticipated local funds of all counties.

Because of a shortage of funds, the lesser amount of \$500,000 was appropriated and the proposed date for starting the program postponed from July 1, 1955 until January 1, 1956. The appropriation is enough to contribute to all counties approximately 12 cents per capita during the last 18 months of the State's current biennium which ends June 30, 1957.

Although the fact that the goal of \$3,000,000 was not reached is disappointing, it appeared to be the thinking of the Legislature that this initial appropriation of \$500,000 would be sufficient to establish the program and allow the State Board of Health to work out the details of its administration—quite a sizeable job.

This having been done and the program in operation, the 1957 session of the Legislature could then consider fully financing the program with the benefit of 18 months' operational experience.

A good start would have been made.

HOW IT WORKS

The State Board of Health, in setting up essential rules and regulations for administering the program, tried to keep them as simple and devoid of red tape as possible.

As will be seen by the "Application and Authorization," Indigent Hospitalization Service, Form "A," one single page form alone suffices to cover all the following essential information for the hospitalization of a patient:

1. Information concerning patient and patient's signature certifying that he/she is unable to pay for medical treatment or cost of hospitalization.
2. Signed statement of referring physician certifying that hospitalization is essential to patient's treatment and that he is unable to pay for care.

1

APPLICATION AND AUTHORIZATION HOSPITAL SERVICE FOR THE INDIGENT

USE TYPEWRITER
to fill in this form

COUNTY AVAFLA AUTHORIZATION NUMBER _____

Patient's Name MRS. JOHN SMITH Color WHITE Sex FEMALE Age 61

Patient's Address R. F. D. 21, JONESVILLE, FLORIDA
Street or R.F.D. City

Parent's Name DECEASED Address _____

Spouse's Name JOHN SMITH Address JONESVILLE, FLORIDA

This is to certify that I am unable to pay for medical treatment or the cost of hospitalization hereby requested.

Date APRIL 1, 1956 Signature Mary Spick (Mrs. John)

This is to certify that it is my professional opinion: (1) This patient is acutely ill or injured; (2) Hospitalization is essential to the treatment of this patient; and, (3) This patient can be helped markedly by treatment in a hospital. To the best of my knowledge and belief this patient is unable to pay for medical treatment or for the cost of hospitalization.

Diagnosis: ACUTE CHOLECYSTITIS --- GALLSTONES

Referring Physician: John Doe, M.D. Date APRIL 1, 1956
Signature

Is this patient a recipient of benefits from the State Department of Public Welfare? NO, from the County Welfare Department? NO

This is to certify the subject patient has been investigated and found to be medically indigent

by MARY JONES
Name or Signature of Investigator
Date APRIL 2, 1956

I hereby authorize the hospitalization of the subject patient at CITY Hospital, and certify that payment for his care will be made from the "Indigent Hospitalization Fund" of this County in accordance with agreements for the payment of hospital services in effect of date of this issue.

Total days not to exceed 7 without further authorization.
John Jones, Jr., D.D. Date 4-1-56
County Health Officer

CLAIM FOR SERVICES TO BE COMPLETED BY HOSPITAL UPON DISCHARGE OF PATIENT

To AVAFLA County Health Department JONESVILLE Florida
City
As an authorized representative of the CITY HOSPITAL JONESVILLE, FLORIDA
Hospital Address

I submit the following claim for services authorized:

Date Admitted <u>4-1-56</u>	Date Discharged <u>4-8-56</u>	Number of days <u>7</u>	Rate per Day <u>\$20.00w</u>
Total Amount Due Hospital <u>\$140.00</u>	Final Diagnosis <u>ACUTE CHOLECYSTITIS --- GALLSTONES</u>		

I hereby certify that the above statement is true and correct; that the account is due; that no payment has been received and that no additional charge will be made for this service.

Date APRIL 8, 1956 Signed James Williams
Title SUPERINTENDENT

Approved for payment John Jones, Jr., D.D. Date APRIL 10, 1956
County Health Officer

FLORIDA STATE BOARD OF HEALTH
* (Complete cost of all services)

INDIGENT HOSPITALIZATION SERVICE, FORM "A"

(See Explanation on Reverse Side)

► While this is not an actual case, it is typical of those now being cared for under the program.

just one example

Mary McC. lived in a small town in Central Florida. Her husband was employed at the local junk yard. They had three children and a small house on which rested a heavy mortgage. Mr. McC. was classed as a laborer and his income, while not large, kept the family provided with the necessities of life. Then trouble seemed to come in bunches for them. The oldest boy broke his leg. Mrs. McC.'s father died and they had to help out with the funeral expenses. Mr. McC. had to have all his teeth removed and get dentures. The final blow came when one day Mrs. McC. became quite ill with severe pain in her abdomen. The local doctor suspected it was an intestinal obstruction. There was not a local hospital, so her physician referred her to a surgeon in a nearby city where there was an excellent hospital. The surgeon confirmed the diagnosis and said she must be operated on at once. It was a matter of life or death. Mr. McC. told the admitting officer that he had a small sickness policy but he did not have any hospital or surgical insurance on his family.

Mrs. McC. was in great pain and was immediately admitted to the hospital and prepared for surgery while her husband and the admitting officer tried to work things out. It was obvious that Mr. McC. would never, in his present situation, be able to pay the large hospital bill or the surgeon.

The McC.'s family doctor thought that she was eligible for care under the Hospital Service for the Indigent program in which their county was participating. Consequently, he completed his section of the application form and sent it to the county health officer. The county health officer confirmed the family doctor's appraisal of indigency and authorized payment to the hospital for the cost of her care.

Mrs. McC. was operated on and recovered. The hospital was paid its costs. The McC.'s county, which had no adequate hospital, was able to help provide care for one of its citizens; the state contributed part of the money needed, and together they were able to help an unfortunate person return to health, her family and the community.

3. Statement of investigator as to patient being medically indigent.
4. Authorization for care signed by the County Health Officer.
5. Final bill and final diagnosis signed by agent of hospital and County Health Officer.

This one form tells the whole story of hospital and medical care for a person hospitalized under the program and is designed to keep paper work at a minimum.

When properly used, it will greatly expedite payments to hospitals. Physicians are giving their services free to the patients hospitalized under this program since they are indigent cases.

PARTICIPATION

Who takes part in the program? Participation is voluntary. It is hoped that eventually all counties in the state will participate. As the program is just now getting under way, only 20 counties are participating but a number are in the process of joining the program.

For a county to participate in the program its Board of County Commissioners must, by formal resolution:

1. Declare its desire to participate in the program;



► *A blood test may help the doctor diagnose this patient's case. She is attending the hospital's out patient department.*

2. Establish a "Hospital Service Fund for the Indigent" and budget for this fund an amount not less than fifty cents per capita per annum for its current population as estimated by the Bureau of Vital Statistics of this state; and
3. Determine and declare which of the two methods of administration, as provided under Section 12 of the Act creating the service, the county elects to follow.

To aid county commissioners in entering the program two model resolutions have been prepared and distributed to all counties.

The difference in the two forms is that the county indicates which type of administration of funds they choose—funds paid into the State Treasury or funds administered on a local level.

Standards have been set up for the approval and acceptance of Florida hospitals into the program and most hospitals in the state are eligible for participation.

Any hospital with 10 or more beds may participate if it has two or more licensed doctors of medicine on its staff and meets other reasonable standards for nursing care and laboratory service. Every participating hospital will be paid its standard billing with a limitation of \$15.00 per patient day; however, if the hospital's basic non-profit cost per patient day of care is greater than \$15.00, the greater cost will be paid if the hospital proves its cost by filing a prescribed cost analysis.

TO SUM UP

Florida's Hospital Service for the Indigent plan is an answer to a long-felt need. It is the result of the best thinking and planning of many persons and groups. To be successful it requires community action by physicians, county commissions, hospitals, county health departments, welfare departments, and others.

It is designed to alleviate suffering and restore individuals to useful places in the community. It should help raise health standards in the entire state.

From a practical standpoint, also, it should help keep hospital costs down because the cost of hospitalization of the indigent has had to be absorbed by hospitals and, in turn, resulted in increased cost to patients who could pay their way.

Florida physicians have traditionally given away millions of dollars worth of service to the indigent each year with no cost but to themselves. They will continue to charge no fee for the care of the indigent under this program. But there is no such thing as free hospital care—someone must pay the bill.

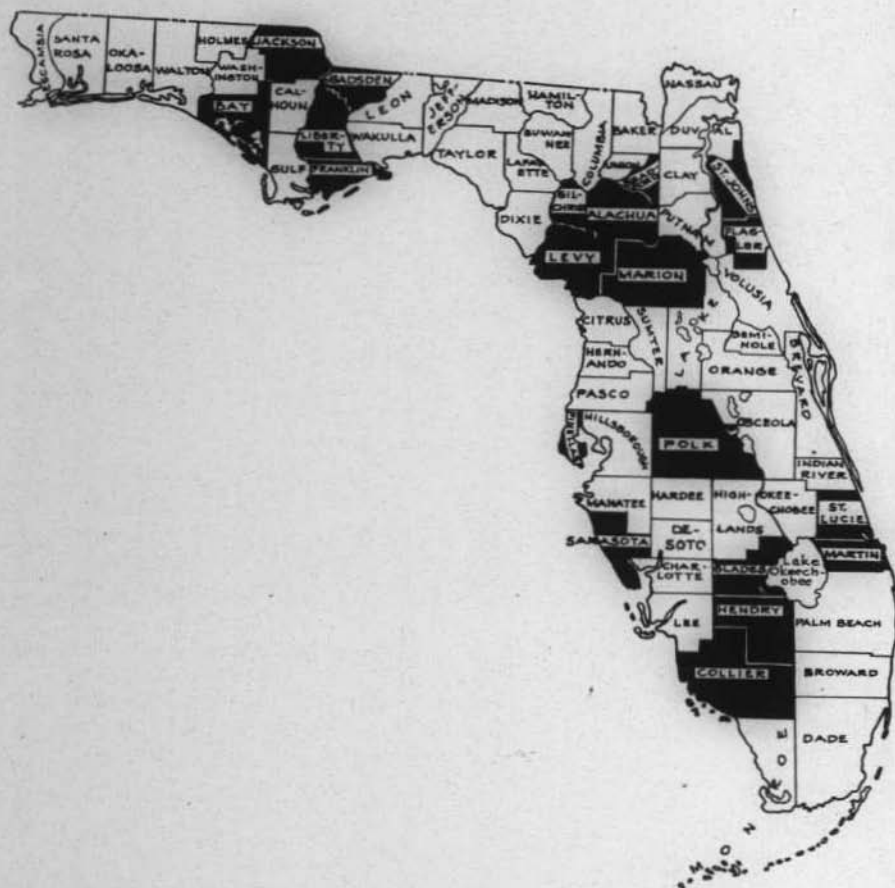
It is hoped that with the start already made and the ground-work laid the Hospital Service for the Indigent plan will receive an increased appropriation which will enable the program to operate as originally planned and render greater service to the state.



► *All well again, this little boy is saying good-bye to an interested nurse.*

Nothing gives greater satisfaction than performing a service that is needed. And no need is more urgent than that of the sick and injured. All those engaged in this program can feel gratified and proud of the part they play in restoring someone to a healthy, happy, useful life.

COUNTIES SHOWN IN BLACK ARE PARTICIPATING IN
THE HOSPITAL SERVICE FOR THE INDIGENT PROGRAM,
APRIL 1, 1956



Other Counties Not Shown As Participating Are In The Process
Of Joining The Program.

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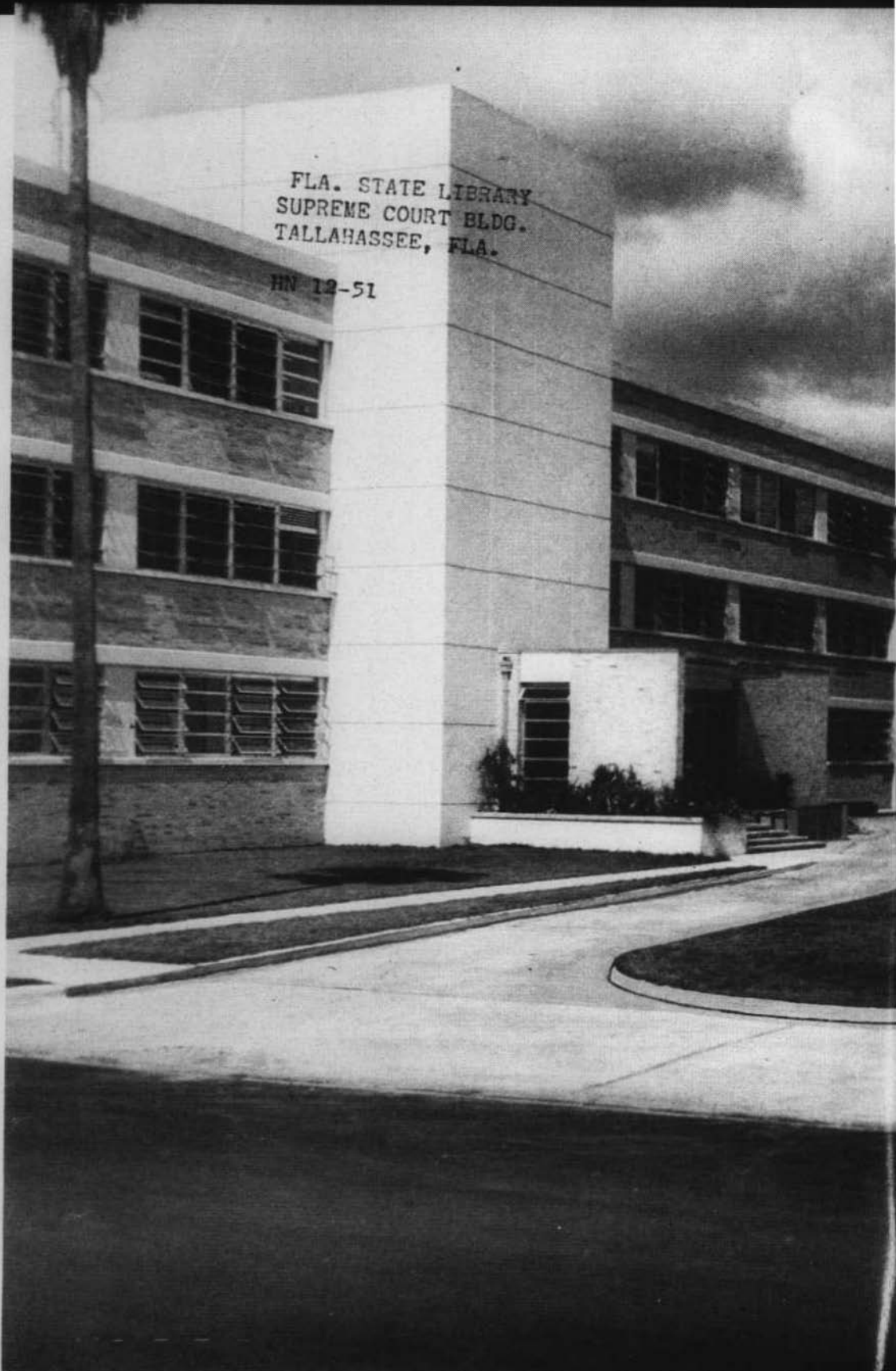
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Will Serve the Dual Purpose of

Telling You About

SOME OF OUR ACTIVITIES IN 1955

and

Introducing Some of the People Responsible

for Conducting the Affairs of the

FLORIDA STATE BOARD OF HEALTH

FLORIDA HEALTH NOTES

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This is the *BOARD OF HEALTH*, the governing body who approves our policies. Reading from left to right, *seated*: Charles J. Collins, M.D., Member, Orlando; Herbert L. Bryans, M.D., President, Pensacola; T. M. Cumbie, Ph.G., Vice President, Quincy; *standing*: F. P. Meyer, D.D.S., Member, St. Petersburg and Carl C. Mendoza, M.D., Member, Jacksonville.

Dr. Bryans was re-elected president of the Board at its annual meeting in February.

These Board members are appointed by the Governor for 4 year terms. They serve without pay. All are private citizens—3 are physicians, one is a dentist and one a pharmacist.

To show you what a range of problems they discuss to protect you from disease, here are a few of the decisions made at the seven Board meetings held in 1955:

January 16—

- ★ Directed that information be gathered concerning substitutes for silver nitrate as a preventive against ophthalmia neonatorum (blindness of the newborn).
- ★ Discussed survey of public health in Florida made by the U. S. Public Health Service for the Governor.

February 8—

- ★ Revised the rules and regu-

lations for nursing homes.

- ★ Revised the regulations for control of psittacosis (parrot fever).
- ★ Directed that a bill be prepared for the better control of rabies.
- ★ Reiterated the Board's policy that no employee accept outside employment to supplement their salary without the Board's approval.

April 3—

- ★ Confirmed the leaves of absence of personnel serving in World War II whether such persons received written leaves of absence or not.
- ★ Approved the use of Salk vaccine for first and second grade children provided favorable report received from National Institute of Health.

June 12—

- ★ Approved plan submitted by C. M. Sharp, M.D., director of the Bureau of Tuberculosis Control and Robert Davies, M.D., medical director of the State Tuberculosis Board for the home treatment of tuberculosis patients.
- ★ Approved the appointment of an advisory committee on Salk vaccine.
- ★ Approved plans for awarding medical and dental scholarships, including the appointment of a medical advisory committee.

July 17—

- ★ Approved advisory committee on hospital services for the indigent program.

August 20—

- ★ Conducted a public hearing on the fluoridation of public water supplies.

October 30—

- ★ Approved a statement reviewing the hearing held on August 20 and affirming its previous policy on the fluoridation of public water supplies.
- ★ Reaffirmed its long standing policy favoring sewage systems in built-up areas instead of septic tanks.
- ★ Revised regulations relating to drive-in restaurants.
- ★ Approved a cooperative agreement regarding laboratory services between the State Board of Health and the State Tuberculosis Board.

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"The Board in retrospect of its work since 1889 has, perhaps, ample reason for pride in what has thus far been accomplished, and appreciates it as done largely through the hearty support given it by the people whom it is their pleasure to serve."

(Annual Report—1894)



This is Dr. Wilson Sowder. He is the *STATE HEALTH OFFICER* and Secretary to the Board whose picture you saw on the previous page. He has many responsibilities. He reports that in the 1955 Session of the Legislature: a Mental Health Council was established with responsibility for advising and consulting with the State Board of Health on training and research. A law was passed establishing a state-wide program for the Hospitalization of Indigent persons, as were laws concerning ten scholarships to be awarded annually to Florida students who aspire to study medicine; and another ten for dental students. All the above programs are administered by the State Board of Health. He notes, too, that the rapid increase of the population of Florida is reflected in the steadily increasing demands for services.

The State Board of Health endured much criticism during the year from groups opposed to fluoridation of public water supplies. A great deal of emphasis was given to cooperation with the mental hospitals in the state. The Entomological Research Center in Vero Beach was completed and occupied during the year.

Because of lack of funds and personnel some of the problems which could not be effectively met during 1955 were: diabetes control, stream pollution, air pollution, civil defense and the training of food handlers.

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This is Dr. George Dame, director of the *BUREAU OF LOCAL HEALTH SERVICE*. This Bureau has the responsibility for maintaining a liaison with the

county health departments (and is the parent of the next two sections). Dr. Dame asserts that county health departments are being operated economically but in some counties, equipment and furniture is old and inadequate. In other counties the payrolls have been spread too thin — in spite of the fact that county health department budgets now total approximately four and one-half million dollars. These figures not only reflect the rapidly increasing population and wealth of the state, but the increasing confidence of our citizens in the ability and efficiency of their county health departments.

It is with a sense of great loss to public health in Florida that it is necessary to record the passing of Dr. Frank M. Hall, director of the Alachua County Health Department. Dr. Hall was an outstanding public health administrator and was nationally prominent.

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This is Dr. Charles Mathes, who is director of the *FIELD ADVISORY STAFF*. The staff, besides the director, is composed of three sanitation consultants, two nurse consultants, and two record consultants who visit county health departments on request.



Nursing home licensure is another responsibility of the staff. The inspections are done by the local health departments and nursing homes are licensed upon their recommendation. Consultation in this program is just another duty of the staff members.

Dr. Mathes is also the director of the In-Service Training Program. The training courses offered at the State Board of Health provide all kinds of public health workers with basic knowledge that is so necessary for improving the quality of their efforts. A class of nurses and one of sanitarians has completed their training. A program for clerks has been announced. These classes will be repeated at frequent intervals.



This is Miss Ruth E. Mettinger, director of the *DIVISION OF PUBLIC HEALTH NURSING*. The Division during the past year has concentrated on improving quality and performance of nursing service through emphasis on progressive training. Refresher courses have been held; 9 institutes on heart disease control, with over 900 nurses participating; a conference in conjunction with the Florida Council for the Blind; a workshop with the Crippled Children's Commission, and 102 nurses attended an Obstetrics (Maternity) Seminar at Daytona Beach. Eight institutes on venereal disease control were held.

The successful hospital exchange visits, with public health nurses visiting tuberculosis hospitals and faculties of those institutions visiting county health departments, were continued. A similar program has been initiated in conjunction with the

Florida State Hospital (for the mentally ill). Personnel from the various county health units are visiting the hospital for 48 hours at a time.

The Division was keenly interested in a bill, sponsored by the Florida State Nurses' Association, which passed the 1955 Legislature and appropriated \$200,000 for nurse education. Seven public health nurses took the competitive examinations in the hope of entering a university for further study in 1956.

Students of Florida State University and Florida A & M University received field experience in county health departments in 1955, as did 6 students from the University of North Carolina, 2 from Peabody College and 2 public health nurses from Chile.

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This is Mr. Fred Ragland, director of the *BUREAU OF FINANCE AND ACCOUNTS*. Al-

though this Bureau has much to do with that popular subject — money — it also has other functions. The 1955 Appropriations Act provided for certain capital outlay for buildings, lands and improvements. During the year considerable time and effort was devoted to arranging for the purchase of additional land in Jacksonville which will give the State Board of Health the entire block adjoining its present buildings. (This is where we hope a new building will go.)

If you are interested in figures, you might like to know that a total of \$8,884,417.29 was the amount of funds received (or appropriated) for the fiscal year ended June 30, 1955, for the State Board of Health and County Health Departments. This money came from state appropriations and funds, local agencies for county health units, Federal grants-in-aid and private contributions.

On December 31, 1955, there were 1,478 state employees (including those in county health departments) and 14 Federal employees on loan to this agency. During the year there were 461 employments and 365 separations. The principal reasons for separations were marriage, pregnancy, transfer of husbands from area, and more profitable employment elsewhere.

The purchasing agent was a busy man. He received 2,460 requests for equipment and supplies from the various departments and 3,556 purchase orders were issued totaling \$723,680.71.

One of his big jobs was equipping the new Entomological Research Center at Vero Beach. Incidentally, one of the interesting purchases for this Center were many publications in foreign languages dealing with the mosquitoes and other insects.

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This is Miss Elizabeth Reed, who is director of the *DIVISION OF HEALTH INFORMATION*.

The responsibility of this Division is to serve the State Board of Health, the County Health Departments, other health agencies, schools and the general public with films, books, pamphlets, exhibits—and many other services of a health education number.

Two counties added health educators to their staffs during 1955. These were Manatee and

Polk. This brings to five the number of local health educators attached to County Health Departments. An Exhibits Consultant joined the staff—filling a long felt need.

An experimental project was inaugurated in the summer of 1955 to put teachers in the County Health Department for several weeks—for university credit—to help them learn more about the health facilities in their communities and to increase their awareness of the opportunities of health instruction in the schools. Twelve teachers from Dade, Palm Beach, Hillsborough, Polk, Osceola and Brevard Counties participated in this pilot study which was sponsored by the University of Florida, the State Board of Health, the County Health Departments and Boards of Public Instruction in the counties mentioned, the State Department of Education, the Florida Tuberculosis and Health Association and its county organizations. It is planned to continue the project this summer.

The Film Library became the Audio-Visual Aids Library in 1955. Film strips, slides and tape recordings, among other things were listed in the new catalog for the first time. There was a 9 per cent increase in the number of aids circulated (3,834) and in the number of persons who saw or heard these aids (665,964). The library is still unable to satisfy more than 50 per cent of the requests made of it.

The "book" Library had a busy year. There was an increase of almost 10 per cent in circulation over 1954 (9,774). Books, journals, reprints and microfilms make up the bulk of our loans.

Florida Health Notes (this publication) is a responsibility of this Division. It goes out to approximately 12,000 persons in Florida, ten times a year. A constant stream of requests comes in for old and new copies.

Approximately 90 persons attended Orientation programs during 1955. The length of the programs were increased from two to three days. The "orientees" come from the State Board of Health, the County Health Departments, voluntary and official health agencies and the Universities.

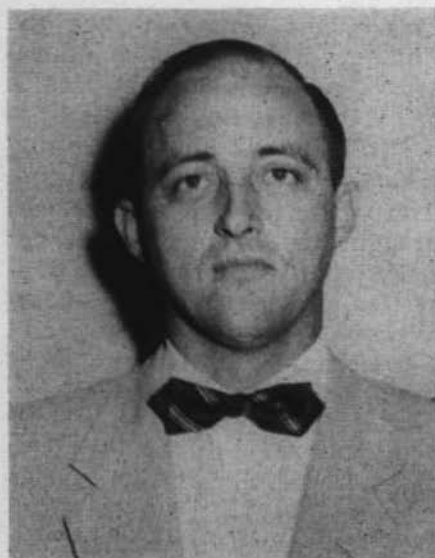
A stream of foreign visitors kept the Division occupied. Representing nine different Countries, they requested and received a variety of experiences and information.

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"... not until sickness or death stares him in the face is the average citizen apt to realize that the laws enforcing domestic hygiene . . . are to promote alike his life and his business with the least possible intrusions upon his rights and liberties."

(Annual Report—1891)

This is Mr. Everett Williams, director of the *BUREAU OF VITAL STATISTICS*. Just to give you an idea of what a busy Bureau this is, we would like for you to look at the activities listed in the box below.



**ACTIVITIES OF THE BUREAU OF VITAL STATISTICS
DURING THE YEARS 1954 AND 1955**

<i>Activity</i>	<i>1954</i>	<i>1955</i>	<i>Per cent Change</i>
Current certificates filed	164,001	172,609	+ 5.2
Delayed birth certificates filed	3,123	3,552	+13.7
Amended certificates filed for adoptions	2,090	2,451	+17.3
Amended certificates filed for legitimations and corrections of parentage	479	616	+28.6
Requests for certifications			
Fee paid	76,300	82,600	+ 8.3
Free	17,799	14,953	-16.0
Photostats made	84,551	92,044	+ 8.9
Birth registration cards made	25,030	26,812	+ 7.1
Fees collected and transmitted to State Treasurer	\$113,328.60	\$122,272.24	+ 7.9

A lot of people wanted to know about their births, didn't they? One of this Bureau's headaches is that so much of their work comes just before school begins in the fall.

Preliminary estimates placed the population of the state at 3,643,562 as of July 1, 1956. Of this figure 2,918,458 were white and 725,104 were nonwhite.

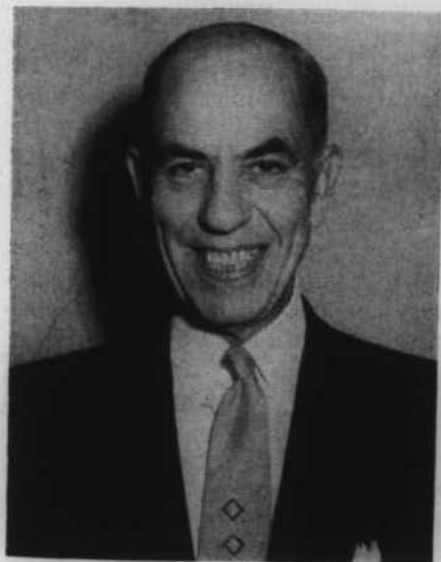
Births to Florida residents reached 89,192, an increase of over 4,000 from the 1954 figure. The birth rate for the state was 24.4 per 1,000 population, slightly below the estimated national rate of 24.7. White birth totaled 64,086 and there were 25,106 nonwhite births and a nonwhite rate of 24.7. White births totaled

The 33,088 resident deaths which occurred in 1955 represent an increase of 5.3 per cent over the previous year.

Marriages increased by over 1,500, reaching a total of 29,869 compared with 28,316 in 1954. There were 23,689 white marriages with a rate of 8.1 compared with 6,180 nonwhite marriages and a nonwhite rate of 8.5.

Divorces and annulments totaled 19,956 compared with 19,417 in 1954.

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This is Dr. Floyd DeCamp, who is director of the *BUREAU OF DENTAL HEALTH*. In 1955, as previously, emphasis was placed on a preventive dental educational program. Major stress was laid on the fluoridation of city water supplies. Assistance was given to a large number of community and professional groups in planning fluoridation programs. On August 20, 1955, at the request of those opposed to fluoridation, a public hearing was held at the State Board of Health in Jacksonville. Following this, the Governing Board of the State Board of Health reaffirmed its policy in favor of fluoridation. As of December 21, 1955, fourteen communities in the state were adding fluoride to their water supplies and a number of others had voted to do so in the near future.

The mobile dental unit (a trailer) was in operation only seven months in 1955. During that time dental service was given to underprivileged children in the first three grades in fifteen schools in five counties. 3,341 children were examined and 249 were given complete dental care.

Dade, Duval, Hillsborough, Orange, Pinellas, and Palm Beach County Health Departments continued to operate full- or part-time dental clinics.

For the second consecutive year, this Bureau cooperated with the Florida State Dental Society, the Hillsborough County Dental Society and the Tam-

pa Dental Assistants in X-ray-
ing children's teeth free of
charge at the Florida State Fair
in Tampa. Approximately 3,000
children were X-rayed.

In June 1955, a program was
set up for making cultures of
the saliva of a patient. In cases
where the saliva sample shows
excessive amounts of a certain
bacteria there is usually much
tooth decay. A program of die-
tary control to reduce soft foods
and excessive sweets in the diet
can be recommended by the
family dentist. This service is
free to the dental profession.

The 1955 State Legislature en-
acted a bill whereby a sum of
\$10,000 a year is made available
for ten dental scholarships.
These are to be awarded to
worthy students in need of
funds, who agree upon gradua-
tion to return to Florida to
practice in a community which
is in need of a dentist.

An X-ray mobile dental unit
was established in October. This
is sent, upon request, to a com-
munity. Local dentists take the
X-rays. Children in certain
grades are given free bitewing
dental X-rays to determine their
need for dental care. The films
are developed by the family
dentist who informs the parents
of the child's dental condition
and if treatment is necessary at
that time.

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This is Mr. Frank Castor, who
is director of the *BUREAU OF*



NARCOTICS. He states that his
problems are aggravated by the
way Floridians move around —
within the state — and by the
influx of both winter and sum-
mer tourists. It used to be that
the Bureau's work was concen-
trated in the winter months, but
now it is spread over a 12
months period.

The Southeast District (12
counties) extending from Key
West north to Vero Beach, with
headquarters in Miami, reports
an increasing number of arrests
yearly. In the Northwest Dis-
trict, composed of 22 counties
with headquarters in Tallahas-
see, the population is most sta-
ble and the narcotic problem
was very mild in 1955. The oth-
er districts' problems remained
at about the same level.

This Bureau's name is some-
what misleading for it is
charged not only with enforce-
ment of narcotic laws, but also

with the laws pertaining to medical doctors, doctors of osteopathy, naturopathy, chiropractic, chiropodists, masseurs and registered physical therapists. For example, during 1955, 3,141 open inspections were made of drugstores, sundry stores, hospitals and other places of similar nature. Prescription files, charts and records of these places were checked for irregularities and violations of the pharmacy and narcotic laws. Fourteen arrests were made for violations of pharmacy laws. Also, six arrests were necessary for violation of the medical laws for practicing medicine without first obtaining a medical license to practice in Florida.

In answer to complaints or where violations of the narcotic laws were suspected, 970 investigations were made resulting in 111 arrests.

14 arrests were made for violations of pharmacy laws.

During the year, with the assistance of the Bureau, many drug addicts received treatment one way or another to free themselves from this deadly habit. Some entered private institutions, others entered the United States Public Health Service Hospital at Lexington, Kentucky. Fifteen were committed to the State Hospital at Raiford. The latter is not an ideal spot for treatment of drug addicts, but it is the only place the state has to offer at present.

Worthy of Note: No cases of

drug addiction have yet been verified in our high schools.

And finally, let us not neglect to say that the staff of this Bureau cooperates very closely with local police and sheriffs' offices as well as with the Federal narcotic inspectors and other Federal agencies.

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This is Dr. Albert Hardy, who is director of The BUREAU OF LABORATORIES. There are seven laboratories: The Central Laboratory in Jacksonville and Regional Laboratories in Tallahassee, Pensacola, Orlando, Tampa, Miami and West Palm Beach. Last year these laboratories examined more than 1,187,000 specimens. Many of these were submitted by private physicians. Others come from county health departments, hospitals, police departments and the like. Blood specimens are examined for syphilis, typhoid,

and tularemia, among others; milk for bacteria and adulteration; sputum for tuberculosis; body organs for signs of poisonous substances like arsenic; stool specimens for hookworms, pinworms and stomach worms — but we could keep this up for pages. The above is just a sample of what this busy Bureau does each day.

What were some of their problems, projects and accomplishments in 1955? One of the accomplishments was the establishment of a cooperative project with the State Tuberculosis Board. This Bureau has assumed responsibility for the operation of the Tuberculosis Hospital Laboratories. This is just one more example of how well Florida agencies work together!

Viruses are so popular these days—so a special “virological unit” has been set up in the Jacksonville laboratory. Services were also begun for the bedding inspectors in the Bureau of Sanitary Engineering. This involves identification of fabrics and materials and differentiating the new from those which are being re-used in mattresses and furniture.

This Bureau is very proud of the fact that, in common with many other laboratories, it is constantly doing research in a number of fields. Among these are investigations of “Salmonella,” one of the family of germs which causes food poisoning; and “Shigella,” a factor in some diarrheal diseases. Another study is concerned with “streptococci,”

which is often associated with rheumatic heart disease. These projects are supported mostly by grants of money from outside sources, such as The Armed Forces Epidemiological Board.

The Bureau of Laboratories feels that one of its major tasks is to constantly help improve the general quality of medical laboratory work in the state. There are many of these laboratories, not connected with the State Board of Health, whose staffs benefit from the educational and consultative visits made by the well prepared senior members of this Bureau.

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This is Mr. David Lee, director of the *BUREAU OF SANITARY ENGINEERING*. This is a large and busy Bureau with many activities concerned with two basic public health problems: pure water supply and proper disposal of all wastes—

as well as many other aspects of sanitation.

In the field of water supply and treatment, 312 projects were approved, which is an increase of 95 per cent over 1954. Florida is growing!

Construction of swimming pools continued to increase at a rapid rate. A total of 239 projects costing an estimated four million dollars were counted. The average estimated cost of a pool was \$17,100 which indicates that the trend is toward smaller pools particularly at motels.

Municipal sewage treatment (plants, sewage systems, etc.) continued to expand at a very rapid rate. Plans were approved for 276 separate projects at an estimated cost of \$40,444,942. This is an increase of 109 per cent over 1954.

Three new permits were issued for natural bathing places in Dade, Manatee and Pinellas Counties. This brings to 48 the number of permitted natural bathing spots.

In an endeavor to help train and improve the efficiency of water plant and sewage treatment plant operators, this Bureau cooperated in regional short courses and the 23rd Annual Short School held at the University of Florida. The regional courses were held at Miami, Tampa, St. Petersburg, Panama City and Jacksonville. Many operators attend these courses voluntarily and are able to qualify for higher grade certificates (such as advancing from a Class "B" operator to a Class "A").

Industrial waste continues to be a big problem, as does the disposal of human wastes. Florida law charges the State Board of Health with the prevention of water pollution detrimental to the public health, to fish or fish food, and to livestock. The streams must continue to be used without undue restriction, yet the people must be protected. More and more communities are considering adequate sewage treatment, and fewer subdivision developers are resorting to the frequently - unsatisfactory septic tank.

What are some of the industrial wastes that must be considered? Examples are: wastes from laundries, dairies, restaurants, paper mills, citrus concentrate plants, phosphate processing plants. These industries are being required to more effectively treat their wastes so that they can be disposed of in a sanitary and acceptable manner, and yet not foul up our streams.

Operating permits were issued to 118 plants concerned with various kinds of shellfish: oysters, clams, scallops, crabmeat. 1,379 visits were made to these plants to make sure that they were being operated in a clean and sanitary manner.

Nine county health departments conducted food handlers training programs in 1955, with 4,828 persons receiving certificates.

Bedding inspection activities increased. (This is a fairly new program). In 240 instances red condemnation tags were used.

While this is only a fraction of the items offered for sale in the state, it has encouraged better adherence to the law about the use of prohibited materials in mattresses, furniture, and other bedding items.

And let's not forget the nuisance complaints! They are usually about alleged insanitary conditions existing in various parts of the state and in most instances are referred to the county health department.

The trailer court industry is a big part of Florida's hospitality trades and has great health and economic importance. Operation permits were issued to 165 in 1955. Major sanitation problems include adequate water supply, sewage disposal, laundry waste, toilet facilities, pest control and garbage disposal.

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This is Dr. L. L. Parks, who is director of the *BUREAU OF PREVENTABLE DISEASE* and

acting director of the *DIVISION OF CANCER CONTROL*. (He also has the overall responsibility for venereal disease, nutrition and diabetes control, public health veterinarian and industrial hygiene.)

Cancer continues to be the second leading cause of death. Principal emphasis of the program is placed upon service to the patient by providing early diagnostic service through the 19 tumor clinics now in operation and hospitalizing medically indigent patients needing care. (The private physicians receive no pay for the care of these patients.) A new clinic was added during the year in Panama City. Services of these clinics are for people unable to pay for private care, and for cases that offer a favorable chance of recovery.

The number of patients receiving hospital aid increased from 1,399 cases in 1954 to 1,903 during 1955. The proportion of patients found to have cancer when applying at tumor clinics dropped from 79 per cent in 1947 to 45 per cent in 1955. This is encouraging—showing patients are applying earlier for treatment.

In cooperation with the Bureau of Tuberculosis, efforts have been made to follow-up patients showing masses or tumors in chest X-rays made in tuberculosis surveys, in order to locate lung cancer early.

This Division works closely with physicians and the Florida Cancer Council. Efforts were redoubled to make every private physician's office a cancer detec-

tion center. Cooperation with the Florida Division of the American Cancer Society continued. Mutual aid is given in educational programs and the cancer society helps to pay certain of the clinic expenses.



This is Dr. James Bond who is the epidemiologist in the *BUREAU OF PREVENTABLE DISEASES*. (An epidemiologist is one who studies the occurrence of diseases—usually those which are preventable.) He states that the major efforts this year were directed against polio. There was a natural decline in the number of cases—in addition to the effect of the Salk vaccine. In 1954 there were 1,777 cases; in 1955 only 466. An estimated 270,648 children received one “shot” or more of Salk vaccine, 165,337 of these received two injections and 2,347 received three injections.

Whooping cough showed a marked increase: 1,080 cases reported as compared to 339 in 1954. There were 13 deaths from this disease. Diphtheria accounted for 99 cases — though we should not have any — immunization is the answer. Very little typhoid fever though the Bureau of Preventable Disease has the names of 88 typhoid carriers in its files. Tetanus remains a major cause of death among communicable diseases: in 1955, 53 cases, 29 deaths.



This is Dr. John Ackerman, who is director of the *DIVISION OF VENEREAL DISEASE CONTROL*. He reports that in 1955 a total of 5,541 cases of syphilis were reported compared with 6,894 in 1954, which is a reduction of almost 20 per cent. Gonorrhea cases, however, showed a slight increase during the past year, with 12,145 cases compared with 11,841 in 1954.

During the past year selective blood testing was carried out by survey teams in Escambia, Polk and Seminole counties resulting in 17,674 persons being tested, with 1,572 positive tests (about half of these were known cases).

Constant efforts are made to help keep informed of new developments those persons who have to do with the control of venereal disease: physicians, health workers and armed forces personnel. Also, every effort is made to answer requests for educational material and take part in programs in schools, as well as civic and community clubs. Much individual information is given by interviewer-investigators who endeavor to follow-up contacts of reported cases of venereal disease and have the located cases treated. These cases of venereal disease are either treated by the health department or placed under the care of the private physician.

This is Miss Marjorie Morrison who is chief nutrition consultant in the *DIVISION OF NUTRITION AND DIABETES CONTROL*.

There are four nutritionists on this staff. (Another was added in February 1956.) Early in the year they decided to give special emphasis to "teenage" nutrition. A limited study of teenagers' attitude toward food and the way food information is presented in schools was made. Six county-wide conferences were held with home making teachers re-



garding teaching nutrition to adolescents. Weight control classes were continued in several high schools.

Parent-Teacher study classes on nutrition were taught. The nutritionists also met with 53 school faculty groups during the year.

A one-day survey of "drinks" consumed by 16,609 school children in 12 counties revealed that only 31 per cent had three or more glasses of milk, 55 per cent had one or more soft drinks and 29 per cent had one or more glasses of orange juice.

DIABETES CONTROL:

Diabetes is the ninth leading cause of death in Florida. However, funds were not available for an adequate detection program.

Insulin was distributed to diabetics through the County Health Departments. As usual

the demand for insulin exceeded the supply. Last year 28,980 vials of insulin were distributed to 2,455 diabetics. The cost of the insulin was \$35,394.22.

A monthly bulletin "Timely Topics" was published throughout the year. This bulletin, which covered subjects of general interest to diabetics, was distributed to 2,000 laymen and physicians.

Blood sugar tests were made on 4,013 persons thirty years of age or over, in conjunction with venereal disease surveys in Polk and Seminole Counties. Of the above number 102 were recommended to see their private physicians for further study.



This is Dr. John McDonald, who is director of the DIVISION OF INDUSTRIAL HYGIENE. His work is so varied

we are going to report it in a "shorthand" style.

★ Atmospheric pollution occupied a major portion of his staff's time. The air, it seems, is becoming more of a problem.

★ 223 samples of urine were collected from employees who work in lead product plants. Lead can be poisonous.

★ A study of exposure to solvents in the dry cleaning industry is still going on. By the end of 1955 nearly half of all the dry cleaning industries in the state had been visited and tests had been made in the various plants.

★ At the request of the Florida Industrial Commission studies were made in a plant producing ant buttons; in a machine shop where carbon tetrachloride was being used, and in checking a new process for wood preservation.

This Division also operates that indispensable adjunct to every office building: the First Aid Room—a present help in time of trouble.

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"Florida, endowed with a magnificent climate, owes to her people the best health conditions, because to her they are possible. We coin from the smiles of Heaven the blessings of His hand, that our people may ever be so rewarded for their virtues and for their intelligence. . . ."

(Annual Report—1894)



This is Dr. James Scatterday, who is the director of the *DIVISION OF VETERINARY PUBLIC HEALTH*. This Division is primarily concerned with the disease of animals transmissible to man. A few of these diseases which commonly occur in Florida are brucellosis, bovine tuberculosis, anthrax and rabies.

There were stepped-up activities in connection with *brucellosis*, a disease found frequently in cattle and swine — which can cause undulant fever in man. 154,899 cattle were tested in 1955 and 3,480 reactors were found and eliminated. Twelve cases of undulant fever in man were confirmed by laboratory tests.

Rabies still exists in Florida. While primarily a disease of dogs, it is also a wildlife problem in this state. In 1955, the following number of animals were positively diagnosed as having rabies; 41 dogs, 12 foxes, 11 rac-

coons, 1 skunk, 5 cats, 1 bobcat, 1 horse, 3 cattle and 8 bats. No human rabies occurred.

"Milk Control" activities can be estimated by a quick look at the following figures:

Counties visited	36
No. of inspections of dairy producers	460
No. of inspections of pasteurization plants	31
No. of dairy board plans reviewed	14
No. of plans for pasteurization plants reviewed	3
Conventions attended (regulatory & industry)	10

The State Board of Health also acts as a consultant on milk problems to the various cities, counties and county health departments.

A number of other diseases of animals, transmissible to man, are investigated and control measures taken.

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This is Dr. C. M. Sharp, who

is director of the **BUREAU OF TUBERCULOSIS CONTROL**. During the past five years a revolution has taken place in the treatment of tuberculosis. Patients are being discharged from the hospital earlier due to new drugs and surgical procedures that have been developed over the past few years because they are recovering much faster than they formerly did. Death rates have been reduced 80 per cent since 1950, for which we can all be extremely grateful. There is, however, much that remains to be done, and there is still a large amount of unknown tuberculosis existing in our state, particularly in the larger cities.

The most important thing in the control of tuberculosis now is case-finding since adequate hospitalization and treatment is available for all cases detected; therefore, it is very desirable that all persons visit their doctor regularly or take advantage of the mobile X-ray unit when it comes to their community.

But to get down to figures. Deaths from tuberculosis hit a new low in 1955. The rate of 7.9 per 100,000 population represents 283 persons who died from this disease last year. The biggest decrease occurred in the negro population—from 18.1 in 1954 to 15.9 in 1955.

2,253 new cases of tuberculosis were reported in 1955. Too many of these people were far advanced cases. There must have been some symptoms—which they ignored. White men still account for approximately one-

half of the new cases reported each year. Fifteen per cent of all cases reported were over 65 years old.

The mobile X-ray units were kept busy. In 1955, 559,555 persons were examined. Five hundred ninety persons with tuberculosis were detected.

But 7,954 of these survey films revealed that there were other things wrong in the chest besides tuberculosis. (A card is sent to the person who seems to have anything wrong in his chest to go to his private physician for a further check-up.)

There is a big problem in this early discharge of patients from the hospital. Many of the patients are supposed to continue their drugs after they return home. It is difficult to say how well this is done. Some do and some do not. Many are not supposed to work except for a few hours a day, but welfare assistance is inadequate, so many of them, particularly the family man, returns to work too soon, resulting in a relapse of their tuberculosis—and a return to the hospital. These are all problems that must be worked out before we feel we really have tuberculosis "on the run."





any heart disease control program. An example is a study of the incidence of rheumatic fever and rheumatic heart disease. A rheumatic case register has been established in cooperation with the Florida Heart Association and the National Children's Cardiac Hospital. This register will provide information about how much of this disease we have in Florida.

★ ★ ★

This is Dr. Simon Doff, who is director of the *DIVISION OF HEART DISEASE CONTROL*, who informs us that most of the activities of this unit of our organization "is carried on in the area of education and information, with the cooperation of a large number of official and voluntary agencies in Florida."

In 1955, approximately 1,000 nurses attended institutes on the subject of cardiovascular disease held all over the state. "Cardiovascular" is a term used to indicate the heart and blood vessels. Plans were made once again to be one of the sponsors of the Fourth Biennial Cardiovascular Seminar for physicians to be held in Miami. This educational project attracts doctors from all over Florida, as well as from other southeastern states.

Research is the life blood of



This is Dr. Laney Whitehurst who is director of the *BUREAU OF MENTAL HEALTH*. This Bureau is concerned primarily with the prevention of mental illness, or to say it more posi-

tively, with the promotion of good mental health.

There are fourteen Child Guidance Centers (or Mental Health Clinics) located over the state. At present there is a plan to employ mental health workers to work in the smaller counties as a kind of liaison between patients and the above clinics, which are found only in the larger cities. During 1955 services for 4,080 patients were terminated in the child guidance clinics. This does not count the many patients who are receiving long, continued treatment. Many requests are made of the clinic staff members, too, to help courts, teachers, probation officers, the police, private physicians, social and welfare agencies — among others — deal with people who have problems in the field of mental health. The staffs that did the helping total two full-time psychiatrists, twenty-two psychologists, thirteen psychiatric social workers, and three speech therapists plus thirty part-time workers as follows: thirteen psychiatrists, thirteen clinical psychologists, and four psychiatric social workers.

The Council on Training and Research in Mental Health was created by the State Legislature in 1955. Six professional people and five lay members compose it. During 1955, among other things, they:

Allotted to the School of Social Welfare, Florida State University, funds for stipends for nine students

Collected information about research possibilities within the state

Made preliminary plans to allocate funds for residencies in psychiatry

Made preliminary plans to allocate funds for internships in psychology.

★ ★ ★



This is Dr. Ralph McComas, who is director of the *BUREAU OF MATERNAL AND CHILD HEALTH*. He is happy over the sharp drop in the number of maternal deaths in 1955. Only fifty maternal deaths were reported (though we must not forget what a tragedy each one of these is). This means that approximately six mothers died for every 10,000 births. Nearly half of

the deaths reported were considered to have been preventable—if there had been adequate local services and facilities—and if the mothers had been willing to use them. The death rate is much higher in nonwhite mothers.

The nurse midwife consultant was busy with the 345 licensed midwives. She held 40 institutes during the year which were attended by 184 midwives.

The Annual Tri-State (Florida, Georgia and South Carolina) Obstetric Seminar was held once again in Daytona Beach. The attendance was large—indicating much interest on the part of: 196 physicians and 102 nurses.

Deaths of infants dropped sharply last year: The rate is approximately 29 per 1,000 live births. The rate for nonwhite babies was double that of the white group: approximately 46 as against 22 per 1,000 live births.

The Premature Demonstration Center at Jackson Memorial Hospital in Miami continues to function. 190 premature babies were admitted and cared for under this state-sponsored program. Fifty of these babies

were white and 140 nonwhite. They come from Palm Beach, Broward, Monroe and Dade counties. It is still hoped that this center can be developed into a formal training facility for nurses and pediatricians, in the care of premature infants.

Cooperation with the State Department of Education continues as in previous years in promoting a good school health program. This embraces many fields of activity—with students, teachers, university faculties—too numerous to mention here.

This Bureau continues to be concerned about health services for migratory agricultural workers. In 1955 a group of 150 families were studied. A special health worker followed these migrant households through Virginia, New York and back to Florida. A report of his observations will be published soon. (He lived in a trailer for four months and reports it was a most interesting experience—but he was glad to get back to Florida.)

Dr. McComas also had overall responsibility for mental health during the year before the Bureau of Mental Health was established.



This is Mr. John Mulrennan, who is director of the *BUREAU OF ENTOMOLOGY*. (This Bureau deals with insects of all types and kinds.) He states that the counties that carried out recommended procedures in draining, filling and the use of insecticides had very little trouble with mosquitoes this past year. Mosquitoes tend to build up a resistance to the "miracle chemicals," which were once thought to be the answer to all our problems with these pests.

The Legislature made \$1,734,329 available for arthropod (insect) control. Of this amount, \$1,250,000 is allocated as direct aid to the counties and \$484,329 is for research and technical assistance.

The new Entomological Research Center in Vero Beach was activated during the year.

This is expected to be a Center which will prove to be of great value to Floridians—and to attract visitors from all over the world. For here will be studied scientifically the best way to rid our state of mosquitoes, dog flies, gnats and the like.

This Bureau received and impartially investigated 110 homeowner complaints against termite control firms. Thirty-four non-licensed illegal pest control operators were investigated and charges were preferred against eight.

No malaria which originated in Florida has been reported since 1948. Typhus fever cases were reported to be only 11 in 1955. This disease is transmitted by fleas on infected rats.

★ ★ ★

"It is certainly a matter of congratulation that no case of Yellow Fever has been reported during the past twelve months; and that I have been called upon to investigate but few suspicious rumors of this disease. No fatal epidemic of any disease has prevailed. . . ."

(Annual Report—1890)

★ ★ ★

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(As of December 31, 1955)

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Bay	Albert F. Ullman, M.D.
Bradford-Clay-Union	A. Y. Covington, M.D., M.P.H.
Brevard-Osceola	James E. Speers, M.D., M.P.H.
Broward	Paul H. Hughes, M.D., M.P.H.
Calhoun-Jackson	Henry I. Langston, M.D., M.P.H.
Charlotte-DeSoto-Hardee	Joseph W. Lawrence, M.D.
Citrus-Hernando-Levy	Dale L. Clinton, M.D.
Collier-Lee	Merwin E. Buchwald, M.D., M.P.H.
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Glades-Hendry-Highlands	Theodore W. Weeks, Jr., M.D.
Hillsborough	Frank V. Chappell, M.D., M.P.H.
Holmes-Walton-Washington	R. N. Nelson, M.D.
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Jefferson-Madison-Taylor	Andrew P. Haynal, M.D., M.P.H.
Lake	J. Basil Hall, M.D., M.P.H.
Leon	Joseph M. Bistowish, M.D., M.P.H.
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Marion	Luther A. Brendle, M.D., M.P.H.
Monroe	Frank J. Hill, M.D., M.P.H.
Okaloosa-Santa Rosa	J. L. Turnage, M.D.
Orange	Wade N. Stephens, M.D., M.P.H.
Palm Beach	C. L. Brumback, M.D., M.P.H.
Pasco-Sumter	Leo L. Burger, M.D.
Pinellas	William C. Ballard, M.D.
Polk	Chester L. Nayfield, M.D., M.P.H.
Sarasota	William L. Wright, M.D., M.P.H.
Seminole	Terry Bird, M.D., M.P.H.
Volusia	Robert D. Higgins, M.D., M.P.H.

(1) Also member of In-Service Training Staff

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Bureau of Mental Health

R. W. McComas, M.D., M.P.H.

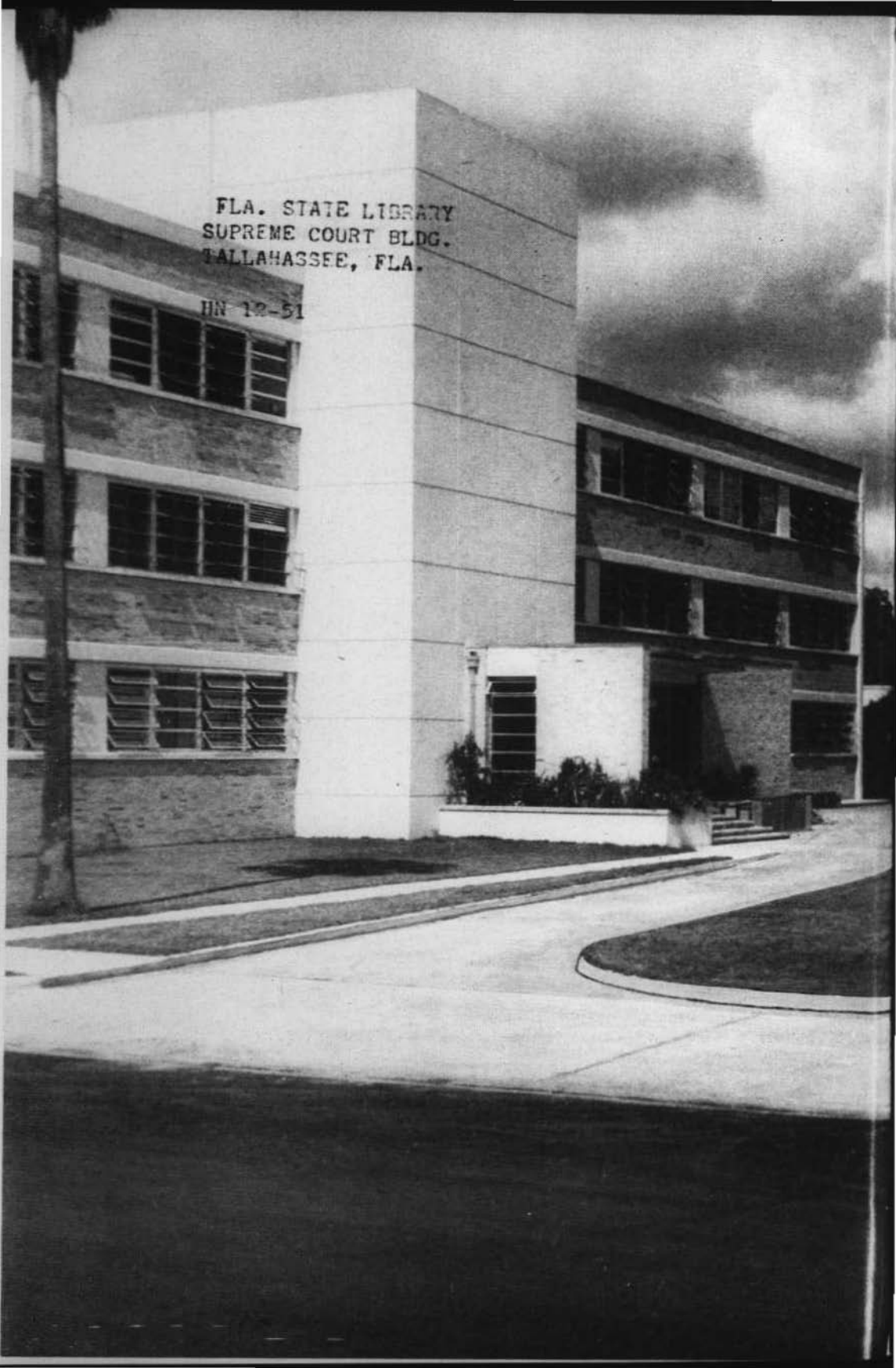
Acting Director

Bureau of Entomology

John A. Mulrennan, B.S.A.

All Counties in Florida have organized county health departments, except
St. Johns County

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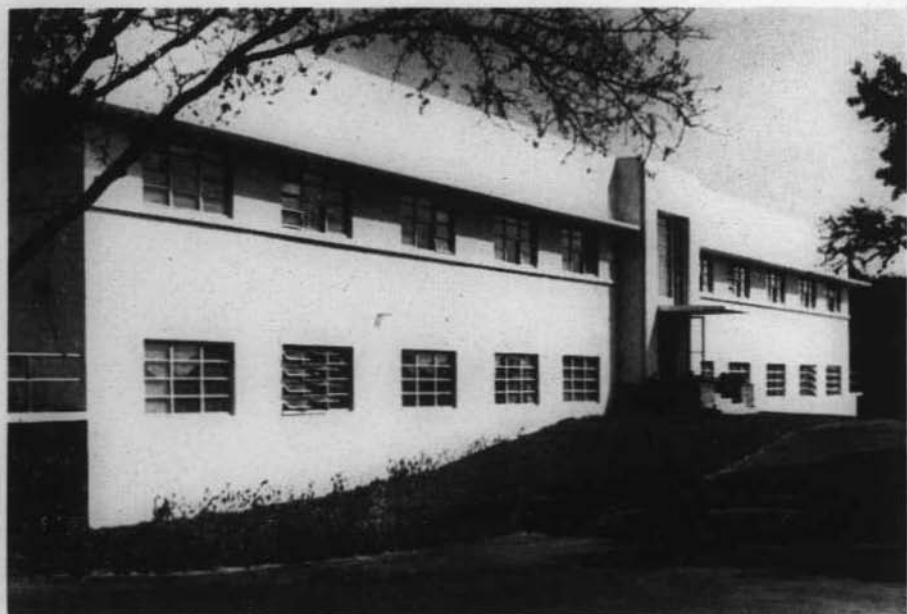


Research



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ENTOMOLOGICAL RESEARCH CENTER



VERO BEACH,
FLORIDA

FLORIDA HEALTH NOTES

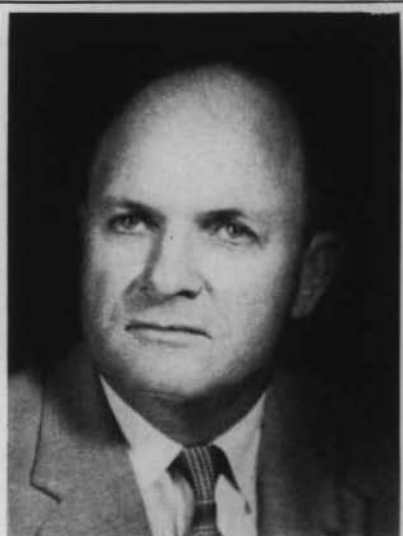
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STARTING FROM SCRATCH

In an attractive new building down by the Indian River below Vero Beach, Florida, a group of dedicated scientists and workers are engaged in a task which is a "first" of its kind. They intend to learn all they possibly can about Florida's biting insects, particularly mosquitoes, sand flies and yellow flies, for one all-important purpose so that these nuisances may be eliminated from the Florida scene. It is the Entomological Research Center of The Florida State Board of Health — the first research center in the world devoted entirely to the study of biting insects.

At present the scientists are concentrating on Florida's major public annoyances, salt marsh mosquitoes and sand flies. They believe these pests can be subdued only when they are known better. Somewhere in the intricate life cycle of these animals the insect sleuths believe they will find the clue which will tell them just when and how to strike for a complete rout of Florida's insect plague. They are "starting from scratch" on a formidable task, for not much is known about the life history of these annoying pests.

However, the people of Florida cannot sit back in idleness and wait for the biologists to come up with a sure-cure for all their biting ills. Control must go on in the State's many districts set up to do that job. The State Board of Health must encourage the best available control methods, and every new bit of information uncovered by the biologists must be promptly incorporated into these methods so that they will constantly improve.



John A. Mulrennan

John A. Mulrennan, entomologist, is director of the Bureau of Entomology of the Florida State Board of Health, under which the research center operates. A third generation Floridian, he received his B.S.A. degree from the University of Florida. He has been in the field of entomology for over 20 years, is a former president of The Florida Anti-Mosquito Association, and is one of the outstanding men in his profession.

For many years Mr. Mulrennan fought for the creation of an entomological research center in Florida and for a better mosquito control program generally. Appearing before a group of legislators some years ago, he said, in reference to the State's forty million dollar surplus at that time:

"You have a big watermelon to cut. I know that many state agencies with worthwhile needs and projects will be asking for pieces of this melon. All we are asking for is one seed. If we get it, we'll plant it and I guarantee it will produce a rich harvest of greenbacks for the people of our State."

His persistence, determination and hard work have paid off. The "seed" is now the Entomological Research Center, and the most progressive statewide mosquito control program in the country.

What About DDT?

There was great rejoicing upon the discovery of DDT and indeed it is a super-insecticide and the one most widely used today. After World War II most Florida counties turned to DDT for mosquito control. They sprayed it from airplanes, trucks and boats. Many mosquitoes were killed and relief was felt. *But the mosquitoes had the last laugh.*

Two things were overlooked or unforeseen. *First*, there is no permanent relief in spraying, for the mosquitoes keep on coming from the same old sources. *Second*, while spraying the salt marshes killed many of the wriggling larvae, those left were inherently resistant to DDT. So these hatched out and flew off to breed a new strain of DDT-proof mosquitoes.

Other problems appeared. *If indiscriminate spraying continues a valuable weapon will be rendered useless. Mosquitoes will develop resistance to more insecticides. Then, in an emergency, when a mosquito-borne epidemic strikes, even fleets of planes and trucks may find spraying efforts futile.*

Moreover, the stronger concentration of DDT being used to make it more effective was creating a hazard by killing insects important to farmers and citrus growers for crop-pollination purposes or as destroyers of harmful insects. The use of insecticides other than DDT brought on even more hazards to agriculture, fisheries, wildlife, and so on.

Facing Facts

Reluctantly, entomologists and mosquito control workers were forced to a hard decision. They were going to have to return to the older methods of ditching, draining, filling, and flooding in a program of "source reduction" or permanent control as it is called to distinguish it from the temporary character of chemical control.

As compared to the dramatic picture of an airplane zooming by with DDT fog rolling out behind it, this is a slow, whittling-away business — but no one can deny its eventual success.

Also, these public health workers wanted to turn to research. The future didn't look very happy if they were to be forever dogged by all kinds of unknown things about the behavior and life-history of the mosquitoes and sand flies they were fighting. There were laboratories studying insecticides and methods of using them, but nowhere could they find anyone systematically trying to uncover how the unwanted insects live — what they do from cradle to grave. The motto of any self-respecting insect-control program is KNOW YOUR INSECT and the mosquito control workers of Florida wanted to know theirs. They were supported in this idea by the 1953 session of the Florida Legislature which earmarked funds out of its mosquito control appropriation for construction and maintenance of an entomological field research center which was to study biting insects and work toward finding out methods of "killing the greatest number of them in the shortest possible time at the lowest possible cost."

The House that Insects Built

This modern, well-equipped, two story building is a "dream into reality" for many people who worked, planned and dreamed, and particu-



Left to right, Dr. E. T. Nielsen, head of Ethology Section and Dr. Maurice W. Provost, Director of the research center.

larly for the two men in the picture who worked on the designing and construction of it down to the last wall plug. Dr. M. W. Provost is the director and acting head of Ecology Section.

The location is central from the standpoint of all the State's biting insect problems. The site for the building affords a variety of habitats, ranging from rich jungle hammock to mangrove swamp and salt marsh. Both fresh and salt water are available for experimental pools and other set-ups. The land was selected and then generously purchased and donated by the Indian River Mosquito Control District.

The building is not only unique in purpose but unique in design, particularly in the laboratory rooms. These are planned for extreme flexibility, and nothing was built into them but piped and wired services. Each laboratory floor has 4 drain-holes for sink connections and sinks can be installed at any of 10 locations. Pipes encircling the walls carry hot, cold and chilled water, as well as compressed air and gas. From eleven to thirteen electrical "gang" outlets are provided, for various types of current. A special construction in the ceiling permits suspension of objects from the ceiling almost anywhere in the room. A "peg-strip" around the walls permits the hanging of cabinets and bookshelves and other objects at any spot that is most convenient. Housewives would envy the extreme usability of these rooms.

The picture shown reveals how very conveniently and practically this farseeing planning has paid off. For whatever is needed, there is a place and an outlet for it and, best of all, it will be within easy reach.

In addition to 8 laboratories, there are two insectaries or "colony rooms". These are conveniently across the corridor from the four rooms where most of the experimenting is carried on. Looking like huge vaults or walk-in refrigerators are these bioclimatic or temperature-control rooms. In these, the temperature can be very precisely maintained at any setting between 50° and 100° F. The humidity can also be controlled. All this control is necessary because mosquitoes and other insects are extremely responsive to temperature, humidity and light so that no experimentation means anything unless the researcher also knows what the temperature, humidity, etc., was at the same time.

There is a library. As yet its metal shelves are not filled, but eventually they are expected to house volumes of insect-lore.

On a tour of the building you will also find a drafting room, dark room, two offices, a collection room, glassware room, chemical room, machine shop and an assembly room, as well as storage and rest rooms.

Even the roof of this unique "first" of its kind is not just a roof. It can be used for many purposes and is accessible from the outside by a steel ladder. A davit permits hoisting over the parapet wall. Electrical outlets are provided, and special conduits to the laboratories.

Nothing seems forgotten — venetian blinds, light-proof shades, electric clocks in all rooms, automatic dial switchboard telephone system, rubber-tiled floors and decentralized air-conditioning and heating.



Section of Laboratory room.



Dr. Provost and Mrs. Nina Branch examining mosquito collection.

Three-Pronged Attack

There are 67 different types of mosquitoes and 27 types of sand flies in Florida. Not all the mosquitoes are the biting kind but enough are to make life miserable for those they attack and to present an ultimate health hazard. Almost all sand flies bite, and many people are allergic to their severe stabbing. On West Florida's beaches the dog fly bleeds people and domestic animals unmercifully if not kept under control. And the horse-flies, like the notorious "yellow fly", can make life miserable in many places.

At present the research center is chiefly concerned with biting pests coming from the coastal tidelands — the saltmarsh mosquitoes and sand flies. These are the mosquitoes that plague the coastal areas, whose invasions of coastal cities spurred into existence the many mosquito-control districts in the state. The center workers also use every opportunity to learn more about Florida's other major mosquito pests: the "glades" mosquitoes, "Mansonia" mosquitoes (who have larvae attached to plants underwater), and domestic mosquitoes.

Eventually it is planned to extend research studies to include any other type of biting insect whose control is unsatisfactory because of unknown biological features.



In the laboratory, investigators can see details of fish behavior hidden by the cloudy waters of mosquito ditches. Left to right: Dr. Nielsen, Dr. Harrington, Jr., E. J. Beidler, director of the Indian River Mosquito Control District, and Dr. Provost.

Researchers at Work

The center isn't fully staffed yet, but in the following pages we will get glimpses of the researchers at work, and mostly they will be concerned with aspects of the salt marsh mosquito biology.

A preliminary survey of anti-mosquito ditches, salt-marshes, shallows and estuaries — all in the breeding terrain of salt-marsh mosquitoes — has already shown the presence here of over 100 fish species. Some are well-known predators of mosquito larvae and pupae; others, either as young or as adult, may later prove to also feed on the aquatic stages of mosquitoes when waters are high during the peak of mosquito breeding.

Since mosquito control with insecticides is getting to be more and more difficult, attention must be given to alternate methods. Mosquito-eating minnows figure in just about all ditching and diking plans for salt marsh areas. An inventory of Florida's mosquito-eating fishes must come first. Then information may be sought on what governs the movements, migrations, and abundance of these desirable fish. The life histories



Dr. Robert W. Harrington, Jr., identifying small fishes just brought in from salt marsh ditches.

Biological research is being done from three avenues of attack, and therefore the center is divided into three sections: Ecology, Ethology, and Physiology.

In *Ecology*, the insect is studied in relation to its environment.

In *Ethology*, behavior of the insect is studied.

In *Physiology*, the functioning of all parts of the insects is scrutinized. And to these three biological research sections is added the control research section.

Eventually, it is hoped that no secrets will be withheld from the scientists so earnestly groping for knowledge of these small but mighty enemies. Their homes, whether marsh, swamp or rain-filled tin cans, will be explored. The behavior, from how they mate to why they migrate, will be investigated. They will be taken apart — literally — and examined from any angle which offers hope of bettering their knowledge and control.

of the more important ones must be learned, along with numbers and size of mosquito larvae they eat at various ages. Much has to be learned of the ways of these fishes before more effective methods can be taken to give the greatest number of the right-sized fish of the most greedy species full access to the tremendous salt marsh mosquito broods.

It's muddy but essential work if we're ever to know where those tiny sand fly larvae hide out in the mud of Florida's vast tidal areas. Soil is collected from a tidal area with an instrument which measures the exact amount of sand collected. In this way it is possible to determine just how many larvae of sand flies are present in a given quantity of wet sand. The sand is washed and sieved, the final sieving being done through the finest copper mesh screen. Then the residue is put in a heavy salt solution. The tiny larvae or "worms" rise to the top of the solution, where they are then picked out and counted, using a medicine dropper.

Destroying sand flies with insecticides poses some problems as does the DDT attack on mosquitoes. Much greater dosages are required to kill the sand fly larvae, which means all the hazards — and especially the dangers to fish — are increased. It is hoped that intensive study of the sandfly will reveal where it is most vulnerable and point the way toward a safe method of extermination.



William L. Bidlingmayer washing and sieving sand from salt marsh to recover sand fly larvae.



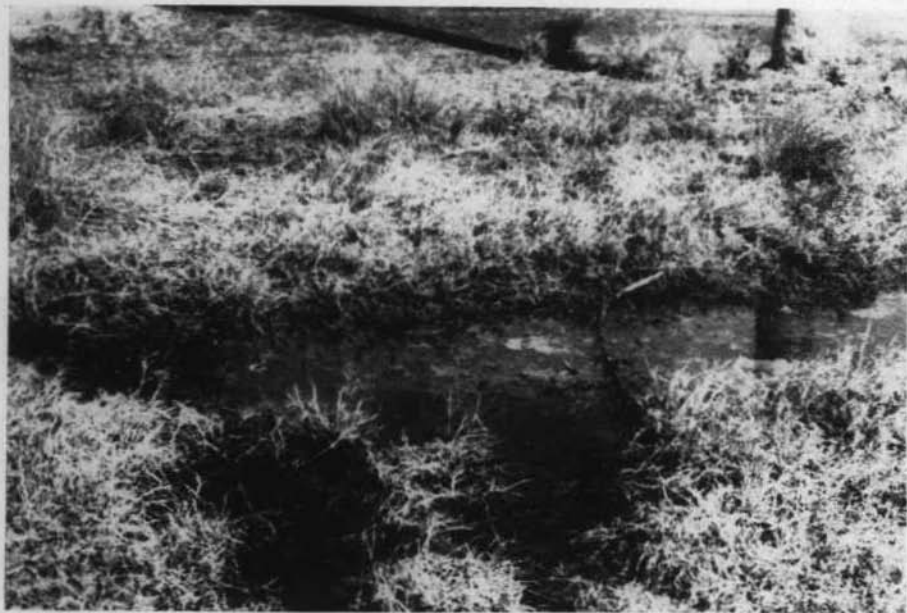
Mrs. Nina Branch identifying mosquitoes.

One important research tool is the microscope. By careful examination under its powerful lenses, the biologist can tell, for instance, if a certain mosquito has mated, whether it's had a blood meal, or whether it has laid eggs. Of course, the microscope may be necessary to tell in the first place what species of mosquito is involved.

Catches of mosquitoes obtained from light traps and other collecting devices are sorted out and identified according to species and sex. It is exacting and painstaking work but provides invaluable information because all these collections are related to something (weather, flights, growth rate, etc.) the biologists are studying. Mrs. Branch identifies mosquito larvae too — and sandflies, yellow flies, "blind" mosquitoes — in fact, most any insect the researchers need to have identified.

What does grass have to do with mosquitoes? Plenty, in the case of the salt-marsh species. They lay their eggs on moist ground in the shade of grass and other marsh growths. Since these plants all grow in special spots on the marsh, and are affected by the same kind of things that are important to the mosquito-egg type of soil, (how often flooded by tide or rain, how much shaded, and so on) it becomes possible to know where the mosquito eggs are by examining the vegetation.

Grasses are especially important to glades mosquitoes as egg-laying places. Considering that plants and flowers play special roles in the lives of most mosquitoes, it follows that biologists studying mosquitoes must know plants well. Dried plant specimens, in a herbarium, are a necessary reference material.



Salt Marsh, where trouble begins.



Revolving mosquito trap.



Removing mosquito "catch" from light trap.



Examining some fallen enemies.



James S. Haeger examining dried grass specimens.

Dr. Erik T. Nielsen is head of the Ethology section of the center which is concerned with the behavior and life cycle of the insects being studied. Since the salt-marsh mosquito eggs remain in the sod until tides or rains flood them and hatch them, all Dr. Nielsen needs to do to produce larvae for studies or experiments is bring salt-marsh sod to the laboratory and "flood" it with tap water.

A lot of work is being done at the center with eggs and larvae. The scientists must learn how long the eggs remain capable of hatching and what protects them from drying, from being eaten, from fungus diseases, and so on, under natural conditions. They also want to know why some hatch and some don't when flooded by certain kinds of water. As for the larvae, they need to know many things about them, but right now they're determining how fast they grow at different temperatures — because this has a lot to do with control operations.

The activity of the mosquito during the first few days of its "adult" life is extremely important, both to the mosquito and to anyone trying to control mosquitoes. In the case of the far-flying salt-marsh mosquitoes, the time of day when the adult emerges or comes out of the water has a lot to do with when it migrates and how far. On the other hand, the time of day when the adult emerges depends on when the larva changes into a pupa, which in turn depends on the temperature of the

water, changes of light intensity, and other things.

As long as timing of these changes in the mosquito's life-forms is so important, only standing watch over the experimental mosquitoes 24 hours a day could give the needed time information if the scientists didn't turn to cameras. A time-lapse movie camera can easily and faithfully do the work of a man as far as just watching goes.

With cameras, both movie and still being used, more and more as research tools, the photographic dark-room takes on added importance. The center's dark-room is large enough for two men to work in it without being constantly in one another's way. It is equipped to develop any size film and to make prints of all kinds.



Soaking salt marsh sod to obtain larvae.



Photographing mosquitoes with movie camera.



An important and much used area — the dark room.

Not only is photography now an essential part of research, but it is a very important adjunct to the library and the drafting room, between which two rooms the dark-room was purposely located. A great deal of the copying of maps, graphs, drawings and the like, turned out in the drafting room is done photographically with frequent visits to the dark room. The library uses the dark room especially for photographic copying of sections of rare books and publications needed by researchers but which are too costly to buy outright.



Dr. A. J. Rogers, head of control research, and Charles Witherington study marsh soil and water.

The biologist in charge of control research is Dr. Andrew J. Rogers. He and his assistant have the job of applying what the scientists discover—of turning mosquito facts into something that can be used against them.

They work closely with mosquito control districts throughout Florida and are always searching for improvement in all control methods used in the State.

One method of controlling salt-marsh mosquitoes which they are investigating, for instance, is "controlled hatching". This is how it works. A dike is thrown around a salt marsh, and gates and pumps are provided for water control. When flights of egg-laden mosquitoes are on the wing, the gates are open and the marshes are semi-dry. Once a good crop of eggs has been laid the gates are closed and the marshes flooded. Out hatch the wrigglers. Then the gates are opened, the water runs out and the wrigglers are literally left "high and dry", to die. This is one way to wipe out the egg laying of large broods. There are other methods that rely on dikes and pumps, and control research men of the center are studying all the approaches which may say yes or no to any such environmental control methods.

It's the female of the species that causes all the trouble — she's the one that bites. But she is only doing her biologic duty. After mating, she needs the proteins she obtains from blood to enable her to mature her eggs. That's all she needs the blood for — it isn't really her food.

Mosquitoes, however, are not always looking for blood. Research has disclosed that they feed on flower nectar. So the center biologists are studying mosquito feeding habits in nature, and also the origin of sugars found in trapped mosquitoes. This could lead to new methods of control — the use of poisoned baits. There's no doubt it will be easier to understand the mosquito's comings and goings when its all-important feeding habits have been uncovered.

A Mosquito Life Story

The life history of the salt marsh mosquito, researchers believe, is probably like this: the eggs are laid on moist soil and if everything goes well they develop into larvae in about three days. These larvae are curled up inside the egg shell and stay that way for weeks or months until rain or tidewater covers them, when they promptly hatch.

The free-swimming larvae or wrigglers, grow through four changes of skin and in about five days, at summer temperatures, they change into pupae, looking like animated commas. Towards the end of the second day, usually, the pupae transform into the adult; the pupal skin splits along the back and out comes the well-known winged and billed mosquito.

The newly emerged mosquitoes must wait until they are six to eight hours old before flying away from their birthplace. Then, if it's dark, they will take off on a migratory flight. But, if it is daytime, the mosquitoes wait for nightfall. Then as the sky darkens, a humming cloud will rise and launch into flight.

This migration of the new mosquitoes is a very strange thing. It is purely a mechanical reaction, because the mosquitoes are not looking for anything. They are simply compelled to fly by some inner unease.

Migrations seem to average two to ten miles. The longer distances apparently are attained by broods which take off at twilight rather than in the middle of the night. Sometimes chance may lead to even longer

Who's Who At ERC

BIOLOGISTS

DR. MAURICE W. PROVOST is director of the research center and head of the Ecology Section. Eminent in his field, Dr. Provost has a Ph. D. from Iowa State College and has been director of research for Bureau of Entomology since 1947.

DR. ERIK T. NIELSEN, an outstanding authority on scientific natural history, Ph. D. from U. of Copenhagen and has published extensively on life histories, behavior, and physiology of many insects. Is head of Ethology Section. Recently served as entomologist in Baghdad.

DR. ANDREW J. ROGERS is in charge of investigations in mosquito control. Has Ph. D. from University of Maryland, is former associate professor of entomology at U. of Florida and an authority on Florida ticks.

DR. ROBERT W. HARRINGTON investigates minnow relationships in mosquito ecology. Ph. D. from Cornell in ichthyology and is a most able investigator of minnow life histories and food habits.

JAMES S. HAEGER (B.S., U. of Fla.). Has worked with mosquito life histories and behavior for over 10 years. An extremely astute field observer, was first to observe mating under natural conditions and feeding on flower nectar by many species of mosquitoes.

WILLIAM L. BIDLINGMAYER (B.S., M.S. U. of Fla.). Has worked with mosquito life histories and ecology since war's end. Has done pioneer work with *Mansonia* larval biology and is particularly skilled in pursuing ecological investigations.

CHARLES G. WITHERINGTON (B.S., M.S., U. of Fla.). Has worked with mosquitoes many years, including several years with armed services in significant research. Is assistant to Dr. Rogers.



BIOANALYST: MRS. NINA BRANCH has over 20 years experience as identification specialist with mosquitoes primarily. Master of bulk collection analyses and expert at Geiger counter monitoring, etc. Associated with Rockefeller Foundation in malaria work for many years.



AUXILIARY PROFESSIONALS

INSTRUMENT-MAKER: LESLIE M. BOURINOT is an excellent cabinet-maker, metal-worker, and machinist. Formerly with biological laboratories of M. I. T. Highly skilled craftsman and chief of the shop.

DRAFTSMAN: WILLEM JANSE is an artist at the drafting table. With 20 years experience as cartographer for an oil firm in South America he is well able to handle all the drawing work for the Center.

flights. The director cites the verified case of a black cloud of salt-marsh mosquitoes observed some twenty miles offshore over the Gulf Stream during the daytime. And he has also recovered a marked mosquito twenty-five miles from where it was released in one of the flight experiments by center biologists.

After awhile the "migratory urge" plays out and the mosquitoes settle down to an average mosquito life not very different from the life of non-migrants. Flights are purposeful now. The female goes through several five-day cycles of "bite-mature eggs-lay-eggs" and then expires — at summer temperatures usually at the ripe age of two to three weeks. The males stay about the edges of breeding areas, mating with whatever females come close, feeding on flowers, and dancing in their peculiar "swarm flights" every twilight. They live two or three weeks.

For the Benefit of All

The Entomological Research Center is operated under the Bureau of Entomology, Florida State Board of Health. Dr. Wilson T. Sowder, State Health Officer, and John A. Mulrennan, director of the Bureau of Entomology, aided by personnel of the Bureau and of the mosquito control districts, worked and planned for many years before their dream of such a research center became a reality. Dr. Provost and Dr. Nielsen turned from science to designing and architecture and completed a small scale model of the present building before any construction work was begun. The 1953 legislature appropriated the essential funds and the Indian River Mosquito Control District purchased and donated the land.

Says Dr. Sowder, "The over-all purpose of the research center is two-fold: to produce such biological information as the Bureau of Entomology needs in order to promote the most effective and efficient control of insects studied; and to expedite the incorporation of this information into control purposes."

Each year the Florida State Board of Health is host to many public health physicians, scientists and other workers from all over the world who come to study various phases of public health work in the State. The Entomological Research Center will probably become a "must" on the agenda of all visitors from foreign lands.

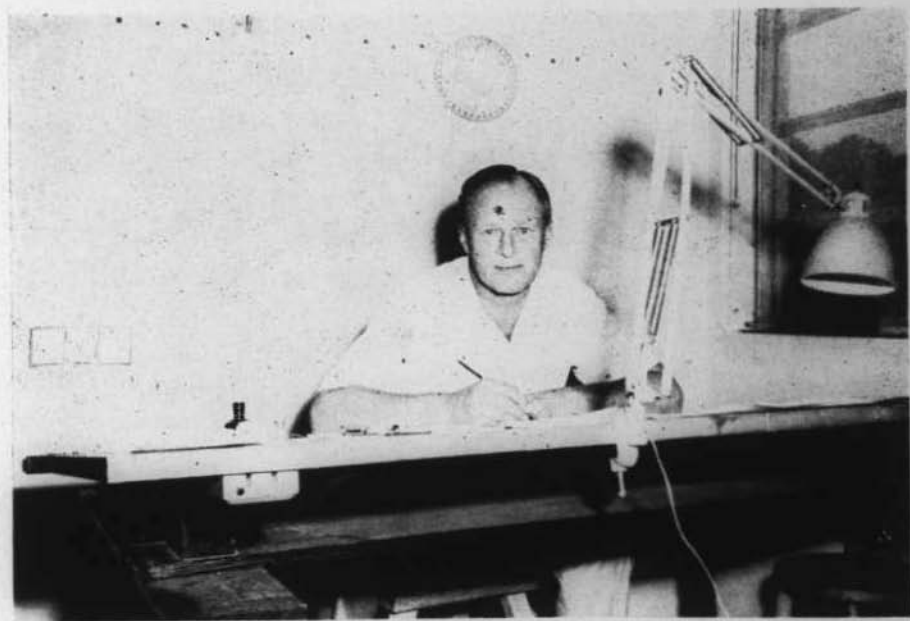
"We believe," declares Mr. Mulrennan, "that this center is one of the best investments the people of Florida have ever made and studies conducted here will benefit not only the citizens of Florida but the world."



Top right picture — Leslie M. Bournot, chief of machine shop, at work in this most modern, splendidly equipped shop. Almost all the special equipment and scientific apparatus in the center is custom built in this shop.

Lower right picture — Willem Janse, draftsman, at work on area map. When needed maps, charts, graphs and other types of drawings are turned out by this artist-draftsman.

"IF WE NEED IT WE MAKE IT"





DEDICATION

• *Left to right, Fred H. Stutz, President of the American Mosquito Control Association and Director of Dade County Anti-Mosquito District, Miami, and Mrs. Clara Mae Becton view the painting of the late Edward M. Becton, who was director of the Indian River Mosquito Control District until his untimely death in the Spring of 1955 and who was a leading figure in the move to establish the Entomological Research Center.*

The assembly room of the center is dedicated to Mr. Becton and this portrait was officially unveiled at formal dedication ceremonies on April 8, 1956. It now hangs in the assembly room, located on the ground floor of the building.

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Bureau of Entomology

John A. Mulrennan, B.S.A.

All Counties in Florida have organized county health departments, except
St. Johns County

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 **CANCER**

Vol. 48
No. 8

**NEW PERSONS APPROVED FOR STATE AID, NUMBER OF PERSONS
RECEIVING FINANCIAL AID, AND EXPENDITURES, BY COUNTY,
FLORIDA CANCER PROGRAM**

1954 and 1955

County	New Persons Approved		Persons Re- ceiving Aid		Total Expenditures	
	1954	1955	1954	1955	1954	1955
State Total	1594	1866	1399	1903	\$ 135,673.30	\$ 209,049.67
Alachua	20	27	22	32	2,871.49	2,905.39
Baker	10	14	8	9	682.00	559.25
Bay	28	32	20	38	2,028.00	3,313.25
Bradford	25	18	25	17	2,158.89	2,722.85
Brevard	12	15	11	10	1,665.45	2,075.06
Broward	33	37	24	34	1,923.65	3,438.08
Calhoun	32	21	23	21	1,108.42	2,621.97
Charlotte	5	13	3	9	174.22	1,100.38
Citrus	3	6	4	4	1,353.21	358.75
Clay	19	18	14	18	2,353.70	1,219.15
Collier	19	20	12	19	1,272.35	4,579.25
Columbia	26	31	18	19	1,842.72	2,355.44
Dade	50	122	42	247	2,837.50	28,424.60
DeSoto	26	16	12	8	1,217.13	902.75
Dixie	8	10	5	8	410.50	124.50
Duval	16	27	12	37	2,190.60	6,100.74
Escambia	103	120	66	104	5,447.95	10,493.78
Flagler	7	7	3	4	22.25	313.50
Franklin	19	14	9	14	282.50	1,631.79
Gadsden	33	35	29	24	2,361.59	597.75
Gilchrist	3	8	3	4	249.20	288.66
Glades	5	2	4	1	88.50	85.00
Gulf	10	12	14	18	2,004.19	2,026.77
Hamilton	16	13	13	12	1,758.50	1,642.21
Hardee	12	13	13	8	468.50	660.25
Hendry	11	8	3	5	159.00	120.00
Hernando	4	12	4	6	355.33	582.75
Highlands	18	24	16	18	1,072.35	3,432.64
Hillsboro	97	161	108	190	10,656.71	19,527.35
Holmes	27	33	20	33	1,451.25	2,069.00
Indian River	13	10	11	11	397.57	1,391.25
Jackson	48	58	39	43	3,262.90	4,624.81
Jefferson	11	10	13	12	1,470.72	483.64
LaFayette	6	8	6	4	682.60	797.00
Lake	22	21	11	18	1,212.50	2,170.26
Lee	27	28	18	12	2,119.76	2,196.33
Leon	49	39	51	42	3,208.02	2,482.84
Levy	6	11	7	9	507.95	913.17
Liberty	11	8	5	5	273.50	568.57
Madison	21	20	18	23	1,416.03	2,135.70
Manatee	33	39	22	33	3,073.95	5,418.15
Marion	12	11	19	13	1,940.36	936.95
Martin	11	9	7	5	808.25	1,009.75
Monroe	39	54	32	46	3,371.00	8,054.75
Nassau	23	25	15	23	367.47	2,096.07
Okaloosa	34	44	15	32	677.40	2,208.45
Okeechobee	5	8	4	1	163.25	136.00
Orange	28	66	35	58	5,348.35	6,737.80
Osceola	9	18	3	11	251.50	830.92
Palm Beach	46	46	65	54	6,180.00	4,069.75
Pasco	29	31	32	27	3,058.15	3,020.34
Pinellas	55	57	55	62	7,305.85	9,770.55
Polk	30	51	48	68	4,860.70	7,183.88
Putnam	47	40	46	51	4,686.22	4,082.38
St. Johns	16	14	14	13	3,108.64	2,254.55
St. Lucie	24	15	16	16	1,703.16	1,502.50
Santa Rosa	26	29	20	32	1,896.50	1,893.73
Sarasota	24	14	27	18	2,822.54	1,342.50
Seminole	24	32	21	24	3,519.86	3,852.79
Sumter	12	23	8	16	771.57	2,084.41
Suwannee	34	26	31	27	3,330.28	1,674.50
Taylor	24	20	17	20	1,247.89	1,388.05
Union	10	8	5	8	113.21	225.50
Volusia	35	33	50	45	3,848.67	6,947.27
Wakulla	18	7	11	5	598.03	698.83
Walton	19	19	13	14	668.00	2,096.50
Washington	16	27	29	31	2,369.50	2,433.89
*Other	-	-	-	-	-	1,062.50

* Rental (monthly) of radium for use of Bay and Duval Tumor Clinics.

CANCER

"Cancer continues to be the second leading cause of death. The actual number of cases is not known because the number reported is very small. There were 5,852 cases reported, an increase of over 200 over last year; but the majority of these were obtained from death certificates."

Sounds grim, doesn't it? Most of us today have someone in our family or a close friend who has, or had, cancer. We've heard all about those who suffer and die; too little about the many who get well — because the cancer was caught in time.

Granted this is a serious disease; that too little is still known about its cause; that it takes a terrible toll of lives each year in Florida (approximately 5,155 in 1955). So then

What Are We Doing About It?

The first line of defense is the private physician. It is to his office that most people go when they are afraid something is wrong with them. It is to him that they will confide their secret fears about nagging symptoms. Sometimes cancer is discovered when the doctor is doing a routine physical examination, its presence unsuspected by the patient. This is the best time to discover it, before it has made its inroads, to have a chance for complete recovery. Sometimes a visit for another illness will reveal its presence.

Recently the Florida Cancer Council circularized doctors throughout Florida urging a 5-point cancer detection examination. Special emphasis was placed upon finding cancer of the skin, mouth, breast, female genitals and rectum. Many physicians urged patients, who were visiting them for advice about minor illnesses, to have a complete physical examination — and many complied with their doctor's request. Undoubtedly, many early cancers were discovered in this manner.

Physicians in Florida also play a big part in the State Cancer Aid Program.

What Is That?

Look at the table on the opposite page. Look at the number of persons from your county who received aid in 1954 and 1955. Note how much state money was spent. Then let us tell you the story of one man whom we'll call Harry Stollen.

Mr. Stollen, a white male, aged 41, went to his family doctor for a regular yearly check-up. He described a few symptoms he had been having which made his doctor suspect that he might have a beginning cancer of the stomach. But in order to tell exactly what his trouble was, it would be necessary to make some tests and take some X-ray pictures. This would be best done in the hospital in Mr. Stollen's particular case.

But at this point, Mr. Stollen gets panicky. He realizes that he has let his hospitalization insurance lapse and that his salary will not take care of his family *and* these tests and several days in the hospital. When he tells his doctor this, the doctor tells him about the State Cancer Aid Program and fills in an application form for him. On it he puts down what he found which made him suspicious of cancer. He then asks Mr. Stollen to take the application over to the County Health Department where he may talk to the doctor who is the County Health Officer. The County Health Officer asks Mr. Stollen a few questions about money matters, and makes a couple of calls to check on his answers. He is then convinced that Mr. Stollen cannot afford to pay the bills for the studies that must be done in order to decide what the trouble is. Then both he and Mr. Stollen sign the application form certifying this fact.

The application form is next sent to the State Board of Health in Jacksonville. If everything is in order, the case is referred to the Tumor Clinic (more about this later) nearest to the patient's home. An appointment is made — but the Tumor Clinic is some distance away; the trip and perhaps several days stay will be expensive — so Mr. Stollen is right back where he started. Here the American Cancer Society, Florida Division (more about them later, too) steps into the picture and supplies money for a bus ticket.

Upon arriving at the Tumor Clinic, Mr. Stollen is greeted by the Tumor Clinic secretary who will guide him through future appointments, arrange for his admission to the hospital, etc. Mr. Stollen is then examined by a physician who is a specialist in his field and who will supervise the tests that will be done. This doctor is giving his time to the clinic patients and does not send a bill to any of them. If he decides that hospitalization will be necessary, arrangements are made and the patient is admitted as soon as possible, perhaps at the time of his first visit to the Clinic if he is an emergency case; perhaps several days later.

Mr. Stollen had fairly routine tests so his stay in the hospital only lasted three days. Fortunately, it was found that he did not have cancer so he returned home at once and a report of all his tests were sent to the family doctor — who had first referred him. The hospital bill was sent to the State Board of Health for payment.

If Mr. Stollen had been found to have cancer, he might have remained in the hospital for an operation, radium or X-ray therapy — or whatever the doctors ordered. Again the hospital bill would have been forwarded to the State Board of Health.

FLORIDA HEALTH NOTES

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And after he had gone home and seemed to be well again, he would have been reminded by letters from the Tumor Clinic secretary to return for regular check-ups. These follow-up examinations usually are carried on for at least five years, to be sure that there is no return of the disease.

If You Want A Cancer Examination

The following is the substance of a pamphlet entitled "If You Want A Cancer Examination." It was issued by the Florida Cancer Council and approved by the Board of Governors of the Florida Medical Association. If you will read and remember its main points you can better discuss this subject with your doctor.

"As more is known about cancer and the desirability of early detection, more and more people ask their doctors for a Cancer Examination."

In a strict sense there is no such thing as a "Cancer Examination," for an examination to detect cancer is essentially the same as that to detect other disease processes in the various parts of the body. However, there are some sites of the body where cancer is common which can be examined easily by any physician. These are:

1. **SKIN:** Any lump, chronic ulcer or thickening of the skin is easily detected. Some may require removal and examination under the microscope to determine if the growth is harmless ("benign") or cancerous ("malignant"). Moles and warts under certain circumstances, or in certain areas of the body, may prompt your doctor to advise removal for microscopic examination.

2. **NOSE, THROAT AND MOUTH:** With a good light your doctor can inspect your lips, gums, mouth and throat. Report to the doctor any sore which does not heal, persistent cough, hoarseness, or difficulty in swallowing.

3. **BREASTS:** The breasts should be inspected in the sitting position and examined when lying down. Of course any lump in the breast will receive special attention by the physician. (Have you seen the film, "Breast Self-Examination"?) The doctor may advise removal of the lump for microscopic examination for this may be the only way to be sure whether or not a discrete lump is malignant.

4. **RECTUM:** A rubber covered finger of the doctor inserted in the rectum can often detect growths of the rectum or prostate which may not manifest themselves by pain or bleeding.

There is a growing feeling among physicians that sigmoidoscopy (visual examination of the lower bowel through a lighted instrument) should be included in the examination of all persons over 30 years of age. Thus the doctor can detect early bowel tumors — when the cure is simple and sure.

5. **FEMALE GENITAL ORGANS:** All women should have an examination of the genital organs — vagina, uterus and ovaries. By using fingers and his eyes, the physician can conduct this examination satisfactorily. If the findings of this examination, together with your symptoms, indicate it, he will advise that smears be taken for detection of malignant cells or he may advise that tissue be obtained for microscopic examinations.



CANCER'S DANGER SIGNALS

- 1 Any sore that does not heal
- 2 A lump or thickening in the breast or elsewhere
- 3 Unusual bleeding or discharge
- 4 Any change in a wart or mole
- 5 Persistent indigestion or difficulty in swallowing
- 6 Persistent hoarseness or cough
- 7 Any change in normal bowel habits

None of these symptoms necessarily means that you have cancer but any one of them should send you to your doctor. Cancer is usually curable when detected and treated early. REMEMBER THE DANGER SIGNALS.

**FIGHT CANCER WITH A CHECKUP
... AND A CHECK**

6. **CHEST X-RAY:** All persons over 40 years of age should have a chest X-ray at least once each year. This is the only way a growth in the lung can be detected early — when it can be cured.

One of the most important parts of any examination is the **HISTORY**, the story you give the doctor. After you have told your physician of the symptoms which you have noticed, he may ask you questions which should be answered honestly and thoughtfully. The symptoms and complaints you may have are very important to the doctor. They do not necessarily mean you have cancer; but they may suggest that special examinations may be advisable in addition to the examination outlined above. For instance, if you are having symptoms of so-called indigestion he will probably advise X-ray examination of your stomach. If you have had a change in bowel habit or have noticed blood in the stool he will advise an X-ray examination of your colon. Cough or expectoration which persist should call for a chest X-ray in all persons. In many cases a blood count and a urine examination may be advised.

The doctor in his office, using simple procedures, can give you an examination which is not costly but which may detect cancer in the early and curable stages or may point the way to further procedures with which to find the more hidden forms of cancer. For the kind of examination described in the above you should make an appointment with your doctor."

Tumor Clinics

In Florida, there are currently nineteen (19) tumor clinics located as follows:

COUNTY	CITY	ADDRESS
Alachua	Gainesville	County Health Department
Bay	Panama City	Memorial Hospital
Broward	Ft. Lauderdale	County Health Department
Duval (2)	Jacksonville	Duval Medical Center
		St. Vincent's Hospital
Dade (3)	Miami	Jackson Memorial Hospital
	Miami Beach	Mt. Sinai Hospital
		St. Francis Hospital
Escambia	Pensacola	Escambia General Hospital
Hillsborough	Tampa	Tampa Municipal Hospital
Leon	Tallahassee	Tallahassee Memorial Hospital or
		Florida A. & M. College Hospital
Manatee	Bradenton	Manatee Veterans Memorial
		Hospital
Marion	Ocala	Munroe Memorial Hospital
Orange	Orlando	Orange Memorial Hospital
Palm Beach	West Palm Beach	St. Mary's Hospital
Pinellas	St. Petersburg	Mound Park Hospital
Polk	Lakeland	Morrell Memorial Hospital
Sarasota	Sarasota	Memorial Hospital
Volusia	Daytona Beach	Halifax District Hospital

The Florida Cancer Council consists of two physicians from the Cancer Committee of the Florida Medical Association, two from the American Cancer Society, Florida Division, one representing the American College of Surgeons and two from the State Board of Health. This Council is very valuable as its purpose is to coordinate all of the services of official and voluntary agencies in the State who are dealing with cancer.

As can be seen, facilities for the Tumor Clinics are usually provided by a hospital. Clinic standards meet the requirements of the American College of Surgeons. The physicians that take care of patients in the Tumor Clinics give their time and the hospital is paid only a very small fee for tests done in their out-patient department. *Tumor Clinics accept only patients who are referred by their physicians because they suspect cancer.*

If a patient is hospitalized under the State Cancer Aid Program, the hospital is paid so much per day, based upon its operating costs. This cannot exceed \$17.00 per day unless there are some unusual circumstances. But to get back to the Tumor Clinics: the Tumor Clinic secretary, as a rule, is paid by the State Board of Health and the American Cancer Society provides office and clinic supplies. The American Cancer Society and the State Board of Health work together so that there will not be an overlapping of services.

Cancer Society

Properly its name is: The American Cancer Society, Florida Division, Inc., and it is located at 416 Tampa Street, Tampa 2, Florida.

The American Cancer Society is a voluntary agency devoted to the control of cancer through a program of education, service and research. It is supported solely through voluntary contributions. Education is accomplished through pamphlets, motion pictures, posters, exhibits, newspapers, talks, and through the use of volunteers who constantly conduct a word-of-mouth educational campaign among their friends and neighbors.

Refresher courses for doctors and nurses are another part of this program. In Florida Cross Roads Seminars have been held over the past few years for physicians, through the cooperation of the Florida Division of the American Cancer Society and the Florida State Board of Health. This has consisted of bringing outstanding physicians to the smaller towns and cities of Florida to lecture and consult with the local doctors for an afternoon or evening.

In some areas in Florida the local Cancer Society pays for nursing visits to the homes of patients who are unable to afford such care. Also, as has been mentioned before, if a patient cannot afford transportation costs, or has no funds for room and board while he is attending a Tumor Clinic or hospital for diagnostic tests, the local unit of the American Cancer Society will often assist him.

At least one-quarter of all funds donated by the public to the American Cancer Society goes into cancer research. The cause of cancer, why and how it grows — all these are still the object of day-in and day-out study. Many recognized universities, hospitals and institutes are the recipients of these funds. Among them are the University of Florida and the University of Miami.

• ♦ ♦ •

DEFINITIONS

Benign tumor: Sometimes a clump of cells grow slowly and in a limited area, and when they do not spread, they are called benign tumors. Most fatty tumors and warts are benign. Benign tumors are harmful only when they press against other organs and interfere with their work.

Malignant tumor: When a clump of cells is not confined within a given area but invades surrounding tissue or spreads to other parts of the body, it's known as a malignant tumor — or cancer. The danger of cancer is that it doesn't stop growing. And it not only infiltrates between normal cells but it destroys them.

Metastasis: occurs when bits of living cancer cells are broken off and carried through the blood vessels and lymph channels to other parts of the body where they come to rest and start another cancer.

• ♦ ♦ •

Causes of Cancer

The most commonly recognized cause of cancer is some form of irritation, chronic or prolonged. The irritation may be of three types:

CHEMICAL: More than forty-five chemicals are now known to produce cancer in laboratory animals. Repeated contact of some of these chemicals with human tissue is known to have induced cancer.

THERMAL: Prolonged exposure to high temperature may cause cancer to develop. Over-exposure to sunlight or high winds may cause cancer of the skin in certain persons.

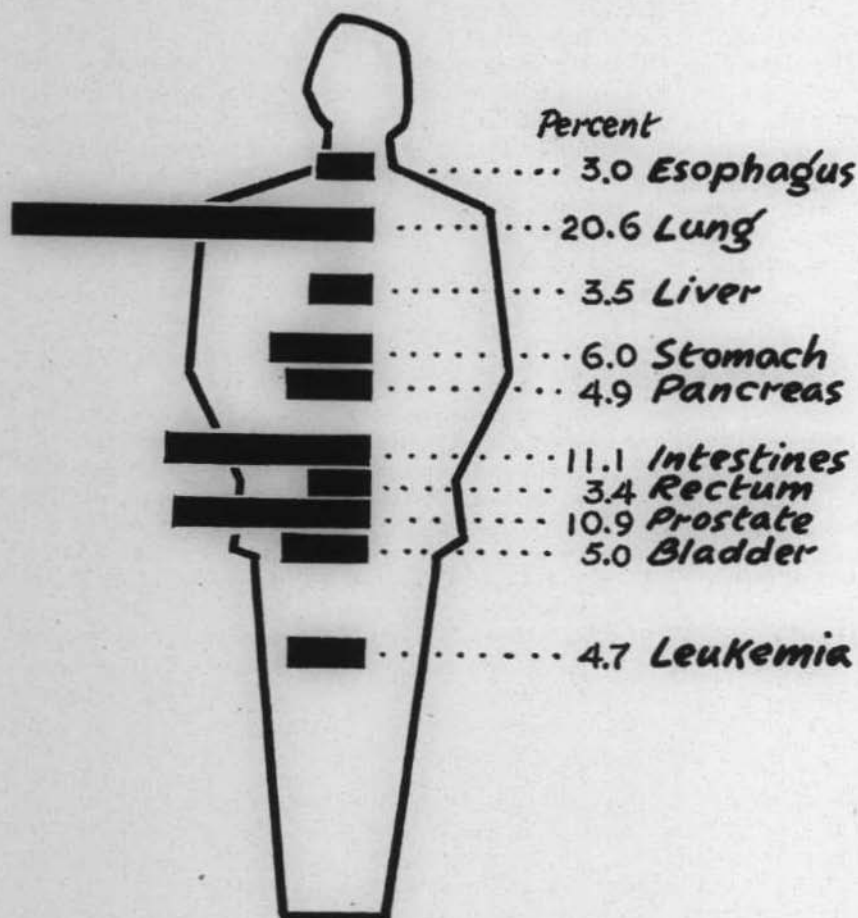
MECHANICAL: Constant friction or rubbing of tissues, particularly of a mole or wart, may produce cancer in such tissues. Cancer is *not contagious, nor is it hereditary*. There is no evidence that it is caused by a germ.

Fear

Many people have suspicious symptoms but do not have cancer. They die a thousand deaths however, thinking they have it. This might be called "cancerphobia." Their fear has two sides — they are afraid to go to a doctor to find out what causes their symptoms; and they're afraid that even if they do not have cancer that they will have to undergo surgery or other treatment. They worry and fret — the least harm they do is to upset themselves and/or those around them; the worst is to allow a cancer, if they do have one, to grow — and thus to lessen their chances for recovery.

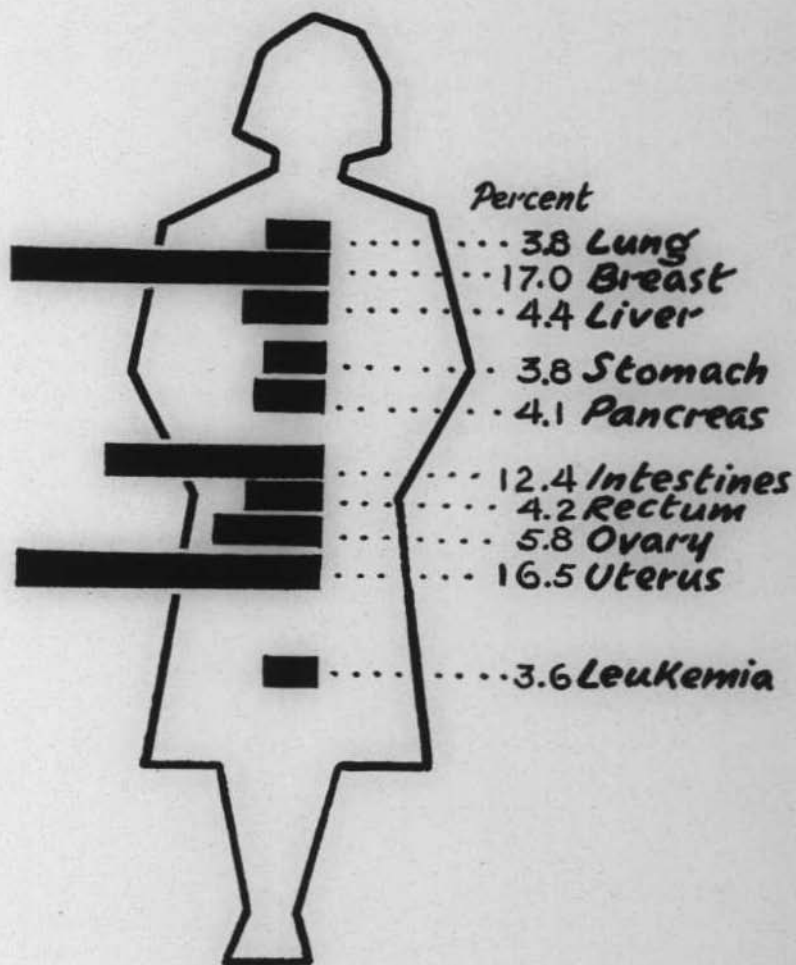
TEN LEADING SITES OF CANCER DEATHS IN MALES

FLORIDA 1955



TEN LEADING SITES OF CANCER DEATHS IN FEMALES

FLORIDA 1955



Let's take an example. Mrs. Amand is a woman of 37. She discovered a small lump in her right breast. She didn't say anything to anybody for several months, just hoped it would go away. The lump grew until it was noticeable and she was finally persuaded to go to her family doctor. Yes, she did have cancer and had to have a radical removal of the breast. Who knows — if she had gone to the doctor when she first noticed the lump perhaps a simple operation and rapid recovery would have been all that was necessary. Now Mrs. Amand's chances for recurrence of her cancer are about fifty-fifty. She waited too long to get good medical advice. She was afraid.

Diagnosis

The way to find out if you have cancer is by consulting your physician. Usually it is your family doctor to whom you have gone for a routine physical examination, for the treatment of a minor illness, or for explanation of puzzling symptoms.

Sometimes cancer is found by the physician who is in attendance at a clinic, many of which are attached to our large general hospitals throughout Florida.

Recently many of these hospitals have been routinely X-raying the chests of all patients whom they admit. The original purpose of these X-rays was to find unsuspected tuberculosis. But other conditions, as well as tuberculosis, have been found in the chest cavities of some of these patients; some serious ones such as lung cancer and enlarged hearts.

Mass X-ray surveys, which are going on constantly all over Florida, have the stated purpose of hunting unsuspected tuberculosis. Once again many other abnormal chest conditions are discovered. The card which such a patient receives advises him to visit his own doctor for a large X-ray and further tests because something unusual was seen in the small X-ray of his chest. Perhaps it will turn out that the condition seen in the X-ray is of little importance; perhaps it will respond to some mild treatment or need continued study. Occasionally, the condition is one that will require surgery or intensive treatment. Yet it is amazing how many of these people completely disregard these cards and do not go see their doctor! Their confidence is sometimes rudely shaken when they become ill from a condition which could have been corrected, if it had been caught in time.

Treatment

There are only three accepted ways to treat cancer today. They are surgery, X-ray and radium. Much research is being done to try to learn better ways to treat this disease.

Many older people with physical ailments retire to Florida, and we also have as visitors numbers of semi-invalids who come to take advantage of our sunshine and temperate climate; we do occasionally have unqualified persons who represent themselves as competent medical practitioners. If they come to the notice of the Bureau of Narcotics of the Florida State Board of Health, who enforce the Medical Practice Act laws, these "doc-

tors" will then be ordered to stop practicing as they do not have a Florida license.

Such "quacks" often swear that they have a "cancer cure." It may be a pill, a salve, a liquid medicine, or an "electrical machine." But rest assured — whatever it is — it will not cure cancer — it will only make money for the man who is selling it. The day that there is any simple sure cure for cancer the news will be on the front page of every newspaper in the world. So until that time, do not waste your money on dishonest quacks — go to a reputable physician and heed his advice.

Oak Ridge


Occasionally one hears of a patient who has gone to Oak Ridge, Tennessee for treatment with "radioactive isotopes." You wonder who can go there — and what does it cost? A patient is accepted as a rule only upon recommendation of his own physician or a tumor clinic, through the State Board of Health. There is no charge for hospital or medical care there. The patient must furnish his own transportation to and from Oak Ridge but sometimes the American Cancer Society, Florida Division, gives some help towards this cost.

Patients who are accepted are admitted to the Medical Division Hospital, Oak Ridge Institute of Nuclear Studies.


Only certain types of cases are accepted for treatment with both internally administered isotopes and experimental teletherapy machines. The patients who are accepted are those who are unusual cases or on whom other therapy has been tried and has not been successful. Since the hospital's bed capacity is small, only a limited number of cases are accepted.

OUT OF 4 PEOPLE WITH CANCER


ONE RECOVERS



THREE DIE



ONE COULD HAVE BEEN SAVED BY EARLIER DIAGNOSIS



TWO DIED OF PRESENTLY INCURABLE CANCERS

GIVE TO THE AMERICAN CANCER SOCIETY

Capsule Case Histories

The case histories given below are short stories of some cancer patients in Florida. The names have been changed to protect the patients' identities.

Male, 68

Mr. Richards was 68 years old and felt fine, except for having a slight cough and feeling tired occasionally. More to please his wife than anything else, he stopped at the trailer in the City Park with its bright posters advising "Get Your Chest X-ray Today."

Several days later he received a letter from his County Health Officer advising him to see his family doctor about his recent chest X-ray. Another X-ray was made, and as in the first one, it was noted by the doctor who "read" the film that there was a suspicious area in his right lung and a possibility of lung cancer.

Mr. Richards was admitted to the hospital for tests by his doctor and a specialist he called for consultation. Even after the tests were made, the doctors could not be sure. It was necessary to operate and actually see the lung itself before they knew definitely that Mr. Richards had cancer. The lower part of the lung was removed, and today, one year later, Mr. Richards is feeling no worse than the next man of his age. He returns regularly to his doctor for chest X-rays and a general check-up.

Female, 33

In 1951, Mrs. Bryant's family doctor told her she had cancer of the cervix (mouth of the womb) and outlined the treatment that would be necessary to control the disease. Mrs. Bryant, who was 33 years of age, had been running a tiny grocery store in an attempt to make a living. She scraped together her savings and managed to pay for part of the treatment recommended by her doctor. However, her funds were exhausted before she had been hospitalized for radium treatment, the final part of her doctor's treatment schedule.

She was then referred to her County Health Department where she was told about the State Cancer Aid Program. She was soon being examined at the Tumor Clinic and within the month she had been to the hospital and received radium treatment.

Her case was followed closely by the Tumor Clinic, and in 1956 her records show that there is no evidence of the disease.

Boy, 5

Little Jimmy was five years old and weighed only 39 pounds. His appetite was poor, and he was having night sweats. Jimmy's mother took him to the family doctor who did some tests and found that Jimmy had cancer. He was then taken to the Tumor Clinic for more tests, and his mother was told he had lymphatic leukemia.

During the next few months Jimmy sometimes seemed to get a little better, but often it would be necessary to give him blood transfusions. Before too long he began vomiting and having stomach aches and bleeding. It soon became apparent that he was getting no better, and everything was done to make him more comfortable. During this period he

was hospitalized thirteen times. One year and one month after Jimmy's mother was told he had cancer he died.

Male, 38

Mr. Johnson, age 38, had a sore on his lower lip that did not get well and that looked very much like a cancer his brother had once had. On the advice of a neighbor he went to a man who was reported to have a "sure-cure" for cancer. He was given shots and placed on a diet.

A year and one-half later, Mr. Johnson appeared at a reputable physician's office, his lower lip completely eaten away and part of his upper lip and surrounding face also affected. Tests were made, and it was found that Mr. Johnson did indeed have cancer. It was necessary to remove his entire lower jaw bone. During the next three years much repair work was done on his face, but in spite of this belated care the disease spread into his neck and eye. Mr. Johnson died.

Girl, 10

Jean Bales, aged 10, was losing weight, running a temperature, and had swollen glands in her neck. After determining that she had no infection causing these symptoms, the doctors at the Tumor Clinic found that she had cancer of the thyroid gland.

Thyroid cancer is one type of the disease that is treated at the Oak Ridge Institute of Nuclear Studies, in Oak Ridge, Tennessee. So arrangements were made to send Jean to Oak Ridge for study and treatment.

After her visit to the Oak Ridge Hospital Jean was much better, had gained weight, and her appetite was good. A few months later she returned to Oak Ridge for further treatment, and during the following year she made six more trips.

The last report from her doctors at the Tumor Clinic included the following statement: "The patient is doing exceptionally well, and she has returned to school for the first time in over a year." Jean's transportation to Oak Ridge was paid for by the American Cancer Society, Florida Division.

History of State Cancer Aid Program

The following is taken from the article "Cancer Control in Florida," by Wilson T. Sowder, M.D., in the Journal of the Florida Medical Association, July, 1948:

"The 1944 meeting of the House of Delegates of the Florida Medical Association accepted and adopted a report of the Committee on Cancer Control, which read in part as follows: 'This committee believes that the cancer control situation in the State of Florida can best be promoted by state legislation which sets aside a definite sum each year for the establishment of cancer clinics for the indigent.'

"Such an act was proposed in the legislature of 1945 . . . but . . . did not pass . . . Appropriate changes . . . were made, and . . . an appropriation of \$200,000 was requested of the 1947 legislature. Before final passage in the spring of (that year), the bill had been approved in principle if not in detail by the Board of Governors of (the Florida Medical Association), the House of Delegates . . . and the State Board of Health."

"This law, entitled 'An Act to promote the prevention and cure of cancer,' places a three-fold responsibility upon the State Board of Health, and these requirements are outlined in the law title as follows:

1. To authorize the Florida State Board of Health to establish a standard for the organization, equipment, and conduct of cancer units or departments in hospitals or in clinics of the State."
2. To conduct an educational campaign for the control of cancer.
3. To provide a plan for the care and treatment of indigent persons suffering from cancer.

"Some efforts toward cancer control had been carried on prior to the passage of this act. For some time there had been a close working relationship between the State Board of Health and the Florida Division of the American Cancer Society, but (the) work was for the most part educational in character.

"..... Properly speaking, however, our cancer control program may be said to have actually started on July 1, 1947, at which time we had available about \$200,000 from the state legislature and an additional fund from the U. S. Public Health Service in the amount of \$41,659.

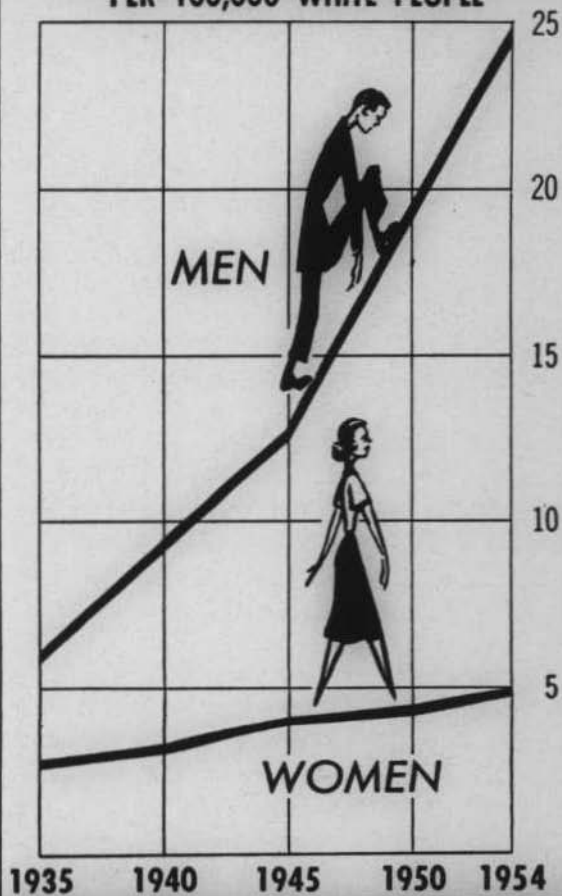
"..... Except for the small sum necessary for bookkeeping and administrative purposes, all available funds have been allotted to the various counties in the state

"The present era marks the convergence of all the trends in cancer to a concentration on the subject unprecedented in its history. Research centers, special cancer hospitals, and clinics are functioning in many countries of the world. Symposia and international conferences, in which leaders in research, diagnosis, treatment, and organization have participated, have added to the general feeling that, while cancer is the problem of every individual and every small community, it is also international in its aspects. The World Health Organization has a separate section working on cancer as did the League of Nations. The United States Public Health Service has a large cancer research center at Bethesda, Maryland, and underwrites parts of State programs, research fellowships, and direct grants for specified research projects, not only in the United States, but also outside continental United States.

(CANCER - A MANUAL FOR PRACTITIONERS, Published by American Cancer Society, Massachusetts Division, Inc.)

LUNG CANCER DEATH RATES

PER 100,000 WHITE PEOPLE



GIVE TO THE AMERICAN CANCER SOCIETY

Want To Know More About Cancer?

The following are some of the 16 mm films on Cancer available in the Audio-Visual Aids Library, Florida State Board of Health, Jacksonville, Florida, which may be borrowed by any recognized lay or professional group.

BREAST: SELF EXAMINATION — 20 min. color, (Senior Hi, Adult)

Female audiences only. Gives simple, easy-to-understand rules for women to follow in self-examination of the breast for early symptoms of cancer. Stresses the fact that establishing the habit of periodic examination of the breast by the woman herself is highly desirable. Can be used effectively with club, church, and civic groups. This pictures should not be shown unless a doctor is present to answer questions stimulated by the picture.

FROM ONE CELL — 15 min. color (Junior, Senior Hi, Adult)

Through the use of diagrams and animation this film shows the complete process of cell division and growth. The manner in which cancer develops when outlaw cells continue their growth unchecked, is clearly shown. Can be used most effectively in biology classrooms.

MAN ALIVE — 10 min. color (Junior, Senior Hi, Adult)

An animated cartoon-style film. Shows how Ed Parmalee is finally taught to properly service his car and through this lesson, how to care for his body through regular physical examinations. Plays up his fears and how it affects his judgment. Shows how he is taught the basic facts about cancer. Will appeal to almost any audience.

WARNING SHADOW, THE — 16 min. color (Senior Hi, Adult)

The story of the first successful cure of lung cancer through surgery. In 1953 Dr. Evarts Graham successfully operated on Dr. James L. Gilmore. Both men are still living. Stresses the importance of periodic health examinations. Shows a number of persons, now leading normal lives, in whom lung cancer was detected in the early stages and successfully treated.

Educational materials such as films and pamphlets may also be procured from your local Cancer Society as well as the American Cancer Society, Florida Division, 416 Tampa Street, Tampa 2, Florida, and the State Board of Health. County health departments also stock certain cancer pamphlets.

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All Counties in Florida have organized county health departments, except
St. Johns County

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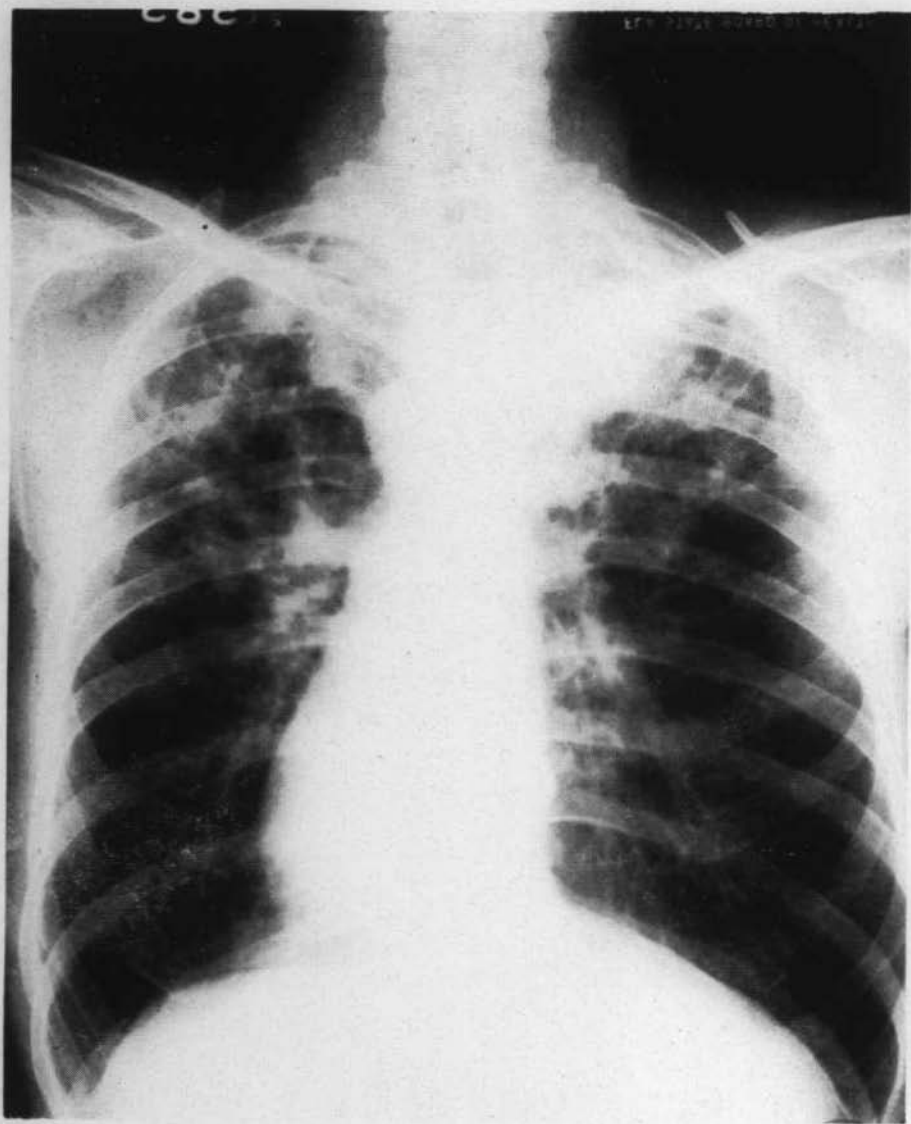


FLORIDA STATE LIBRARY

November
1956

TB-On The Way Out?

Vol. 48
No. 9



This is an X-ray picture of a man's lungs. He has far-advanced tuberculosis. Those big white spots toward the top of each lung show the disease. He just happened by a mobile X-ray trailer in South Florida one day this summer and had an X-ray taken.

TB-ON THE WAY OUT?

The expert who said that tuberculosis would be eradicated within the next 10 years, had better come help Florida find the magic formula for accomplishing that deed in this state within the next few years, for there were 1,786 new active cases in 1955. Our tuberculosis *death rate* is falling rapidly, but the *case rate* of persons who are known to have the disease, remains comparatively high. There has been a 58 per cent decrease in the death rate during the last five years, but only a 26 per cent decrease in the case rate. There must be persons with TB from whom new cases originate — and the problem is how to find them — and all others who have the disease, and get them under treatment quickly, not only so they will get well, but also to protect the general public.

To Begin With . . .

Mass chest X-ray surveys are one of the best ways for finding unsuspected TB. You've probably seen a big white mobile X-ray trailer

in your town. It was brought there by the State Board of Health, your County Health Department and your TB Association. After it has established itself at a central location(s), the work begins.

X-rays are made available without charge to every person over 15 years of age in the county. Leaders from every part of the community work to get 100 per cent of the population X-rayed. And the nearer they reach that 100 per cent, the more effective is the mass X-ray survey as a protection to all of us. Incidentally, if you see one of these trailers parked near a jail or nursing home — do not be alarmed. The X-ray technicians are not in jail or ill — the people in these places are being X-rayed, too.

The Christmas Seal funds of the TB Association pay for posters, pamphlets, signs, extra clerical help, follow-up post cards, printed materials and the like. They also help to recruit the many volunteers who helped to organize the survey and actively assist at the trailer.

FLORIDA HEALTH NOTES

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(Incidentally, several of the TB Associations in the large counties have bought their own X-ray trailers).

Let's Suppose

But what happens if a person finds that he does have TB, after having gone through the survey, or if it is discovered by his private physician, or by some other means?

In the first dark moments when a person learns he has TB, he generally feels terribly alone in a sea of worry and alarm. Actually, he never has to travel this sea alone. Beside him all the way to recovery are many people and agencies — all wanting to help.

His private, clinic or hospital physician, the County Health Department, the State TB Board (which administers the four State TB Hospitals), the local and State Departments of Public Welfare, the Vocational Rehabilitation Division of the State Department of Education, the State and local TB Associations — not to mention the State Board of Health — all of these and more, want to help him get well.

His Physician

The patient must trust his physician whether he be a private, clinic, or hospital doctor, to help him

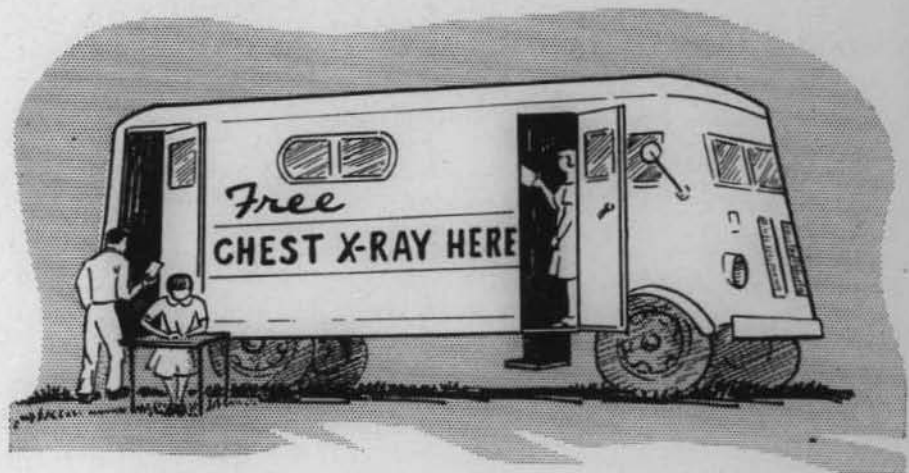
through the trying first weeks when he is suspected of having tuberculosis. He must rely on his doctor to advise him what is the best thing for him to do — stay at home or go to a TB Hospital. But it takes patience.

For example, it may be some time before a definite diagnosis is made. First, if the small X-ray seems suspicious, a big X-ray is taken. This big film has to be compared with X-rays that were taken some years ago and it may take a little time to get these old pictures. Then if the diagnosis is still not certain, a series of sputum tests or even stomach washings are examined. If these tests have to be "cultured" — grown in a special media — it may take several weeks before the results are known. The patient gets impatient and may decide that the doctor does not know what he is doing, or that he (the patient) doesn't have tuberculosis, or becomes disgruntled because he believes that valuable time is being wasted when he could have been treated.

I Don't Have It

Amazing as it may seem, there are always persons with tuberculosis who insist they do not have it. In spite of the best medical opinion, they will still protest that they do not have the disease. When confronted with every evidence, including reports showing tuberculosis germs in the sputum, they will declare there has been a mistake. Perhaps they feel that if they never admit it they will not have the disease! They may steadily become weaker (or have the disease in a chronic state which means they, too, could be spreading germs all over the place) but they will never





admit they have tuberculosis. Neither reason nor logic prevail with this small group.

The County Health Department

A public health nurse on the staff of a County Health Department may find her way into the home of a person with tuberculosis. She may help him make preparations to go to a State TB Hospital; arrange for members of his household and other contacts to be X-rayed; tell his family how to protect themselves against the disease as long as he remains at home. After he comes home from the hospital, she may check on how he is taking his medicine, and perhaps arrange for

him to attend consultation clinics from the State Board of Health.

Occasionally, the physician who is the director of the County Health Department may arrange for tuberculin testing to be done on pre-school children and/or first and second graders. This is not done to find TB in the children, for relatively few children in this country today ever have the active disease; but to discover their adult contacts who do have the disease. A few drops of a special TB testing fluid is put under the skin, usually on the child's forearm. If it becomes red and angry the test is said to be positive. This means that somewhere, sometime, this child has had contact with some adult who had TB. If the parents and other adult contacts of these children are then X-rayed, there will often be found

someone who has TB — and does not know it.

Hospital Care

Florida has one of the finest TB hospital systems in the country. The four hospitals, located at Tallahassee, Orlando, Tampa, and Lantana, are modern and equipped to give the best in treatment. There are a total of 1,800 beds in these hospitals, as well as a 60-bed unit at Jackson Hospital in Miami and a 40-bed unit in Duval Medical Center in Jacksonville.

Rest still is considered one of the basic factors in the treatment of tuberculosis.

New drugs for TB, which are talked about so much today, began with the discovery of streptomycin in 1944. In 1948, PAS (Sodium Para Aminosalicylate) was added to the list. Still another, INH (Isoniazid) was first used in 1952. This combination of drugs, while not actually killers of tuberculosis germs (tubercle bacilli), does seem to stop them from multiplying and gives the body a chance to call up its reserve forces and overcome them. Approximately 95 per cent of all persons with TB can have their disease rendered inactive with these drugs, if they are taken as directed; and if they have surgery if it is recommended.

Surgery, because of these drugs, is used more than ever before. With the increasing knowledge about safe anesthetics, parts of lungs or even a whole lung can be removed with little danger. One of the big problems in doing surgery, however, is the necessity of having large amounts of blood on hand during the operation to be used for transfusions. While there is relatively little risk during surgery,

there is much loss of blood. Many patients find it very difficult to get friends to volunteer to give blood, even though they can contribute it to the nearest blood bank and not have to go to the hospital where the patient is. Incidentally, this is a good project for civic organizations to undertake, for some patients are far from home or have lost contact with family and many friends.

Ever Present

A big problem is the patient who leaves the hospital AMA — Against Medical Advice. He may be producing thousands of germs but he can walk out of the hospital. He returns to his community and is a public health nuisance of the first degree. He can and does give other people his disease.

Why do these open cases leave the hospital? Frequently, resentment builds up in a patient in the hospital where he must undergo a fairly rigid routine of rest, graduated exercise, balanced diet, drugs, and perhaps surgery. Rest is still considered very important — and it gives the TB patient a great deal of time to think, and to worry. He imagines that his family are afraid of him — that the children won't remember him when he gets home; that the neighbors will not accept him when he returns. He reads (so he thinks) between the lines of his wife's letters and wonders if she still loves him and is faithful. (If it is a woman, she wonders if the children are sick and nobody has told her). Perhaps uppermost in his mind are money worries. How is his wife going to manage on the small check she may get from the Aid to Dependent Children Program? Who is taking care of the children? So he tosses and



worries, often needlessly, and finally leaves the hospital AMA. He may go to work in a nearby town, hoping that he can conceal from his employer the fact that he has TB. One of two things then happens: either he breaks down and cannot keep working, or the County Health Department locates him and informs his employer of the risk the other employees are taking — so he loses his job. But even worse is the fact that he may have exposed many innocent people to the disease.

There is a ward of 40 beds at the Southwest TB Hospital at Tampa where those, who will not observe any precautions at home or in the hospital, may be forcibly detained. These are patients who have repeatedly left the hospital, and who are "open" cases — those capable of spreading TB germs. Often the people in this small group are emotionally unstable — a combina-

tion of irresponsibility, intolerance, frustration and planlessness. Frequently they are heavy drinkers and sexually promiscuous. The ordered life in a TB Hospital is the exact opposite of their usual daily life. It is always with reluctance that the public health authorities request that, through legal commitment, these uncooperative patients be placed in a locked ward, as a last resort.

Public Assistance

Public assistance or "welfare funds" play a major part in the control of tuberculosis. There are many patients who must seek and depend upon these funds for the minimum essentials of living for themselves and/or their families during the course of their illness.

Aid to Dependent Children is a State program designed to help those families whose breadwinner cannot care for them any longer. The money that this program can give to any family, be there one or a dozen children, is \$32 to \$81 a month.

It is plain to see that a mother and three children cannot live very well on the amount allowed under the law. Some Florida communities have local welfare programs of one kind or another which may assist, among others, the families of TB patients. But all too frequently, these local welfare funds are limited and as the breadwinner is sometimes in the hospital for many months, it is not always possible for these agencies to keep up even small payments.

The whole problem of public assistance affects the patient, too, who comes home from the hospital and is supposed to work only a few hours each day.

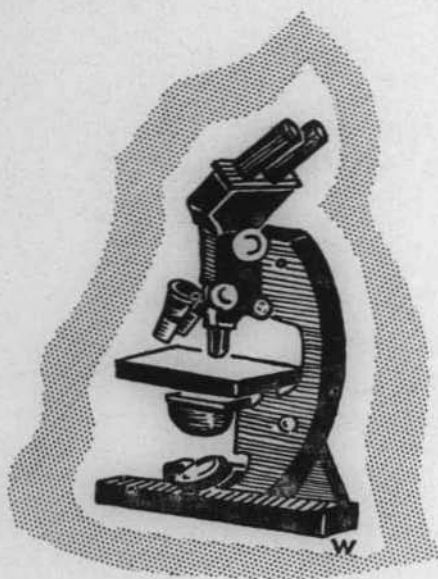


TABLE 37

DEATHS FROM TUBERCULOSIS (ALL FORMS) AND DEATH RATES
PER 100,000 POPULATION BY COLOR, FLORIDA, SELECTED YEARS

YEAR	TOTAL		WHITE		COLORED	
	Deaths	Rate	Deaths	Rate	Deaths	Rate
1955*	287	7.9	174	5.9	113	15.9
1954	283	8.1	159	5.7	124	18.1
1953	303	9.7	171	6.9	132	20.7
1952	501	16.7	250	10.5	251	40.0
1951	518	17.9	279	12.2	239	38.7
1950	522	18.7	254	11.6	268	44.1
1945	708	31.1	339	19.7	369	66.2
1940	973	50.8	375	26.8	598	115.6
1935	908	56.0	395	34.3	513	109.4
1930	1,015	68.6	432	41.3	583	134.0
1925	999	80.8	426	50.0	573	148.7
1920	1,016	102.3	423	64.3	593	176.8

* Provisional

Note: Deaths and rates, 1930, 1925 and 1920 are by place of occurrence.

Other years by place of residence.

A new state program is Aid to the Permanently and Totally Disabled, which was begun in July 1955. During the nine-month period ending March 31, 1956, 1,429 eligible applicants were accepted. Eleven of these were persons with TB; seven were white; four were negro.

National studies have shown that more than 50 per cent of hospitalized TB patients and their families, some time during the course of the patient's illness, are dependent on public assistance. There are not many part-time jobs for a man or woman, even if they are willing to do almost anything to add to their family's income. So what happens? The patient works longer hours and harder than he is supposed to — and often breaks down again, thus wiping out all the good that was accomplished during his hospital stay.

Financial and moral support for the families of tuberculosis patients is important, not only for them, but also for the peace of mind of the patient. And this plays a big part in helping him to get well.

Rehabilitation

One of the finest services given to persons with TB is that which they receive through the Vocational Rehabilitation Division of the State Department of Education. Counselors from this Division step in to help and advise when it is necessary for a person to change his line of work. For example, the doctor may advise that a man who has been a longshoreman will not be able for a long time, if ever, to do such strenuous work. The counselor will visit him, find out what lighter work he might be able to do and help him to be trained for a new job. A woman who has

worked in a factory may have to learn how to do a sit-down job, such as typing. Many persons who have had tuberculosis and been under medical care for a long time need much help and guidance from a vocational counselor. And rehabilitation work pays off; 45 per cent of all the tuberculosis patients helped by this agency in 1954 earned more than \$50 a week when they went to work.

The Vocational Rehabilitation Division listed 138 TB cases as closed and rehabilitated in 1955. Rehabilitation is not something tagged on after the diagnosis and treatment have been accomplished. It should be thought of when the patient first finds out he has TB and be included in the total plan of treatment.

Recent federal legislation encourages the establishment of sheltered workshops. These are usually small industries that are willing to gear their work to the needs and conditions of a person who has a physical handicap. These workshops (there is one in Miami) are often a great incentive to get well, for here is an opportunity to earn, the feeling of being able to contribute to society and the acceptance by one's fellow workers—for everyone working there has a problem.

Good Returns

There are two places where many unsuspected cases of TB may be found — hospitals and jails.

Routine hospital chest X-rays are urged for every person who is admitted to such an institution, especially in the large county hospitals which have many admissions every day. For example, at Duval Medical Center in Jacksonville where this program has been going



on for some time, over 25 per cent of those admitted to the hospital, for every kind of disease or condition, have shown something abnormal in the chest. Over 3 per cent have had TB or showed suspicious signs and will be followed-up with further tests. Tuberculosis has always struck most severely at those who are ill-housed, ill fed, and our county hospitals accept many indigent persons.

Our jails harbor many of life's derelicts and certainly the way many of them live would make them more susceptible to TB. It has been said that "Skid Row is the blackest spot on the tuberculosis map. Case-finding surveys in police stations, prisons, shelters and the like will give the richest yield of new significant cases of TB." Skid Rows shelter many alcoholics.

Some of our more progressive communities now see that every newly-admitted prisoner is X-rayed as a matter of course. For example, in Duval County, every prisoner in the new jail will have his chest X-rayed when he gets his "mug shot."

Special Problems

Florida's attractive climate and way of life attract many visitors — and some of them have TB. The casual tourist who has not been feeling so well comes to Florida in the hope that the sunshine will make him feel better. Sometimes his TB is an unknown companion.

Agricultural migrant workers, who follow the East Coast Migrant Stream from the rich-growing vegetable lands around Lake Okeechobee to the potato-growing fields of Maine and back again — pick up, carry and pass on TB, too. Their way of life helps them to contract the disease, for they often live in shacks and leaky trailers and trucks, and many are lacking knowledge about basic health habits and balanced diet.

The visitor who has an adequate income, if he finds out he has TB, will take care of his own situation; he'll probably go back home to his doctor or pay for good medical care and advice here. But the one who does not have much money, is a floater, or comes south to find employment during the winter season — he's another problem. So is the migrant worker who does not claim Florida as his home. Who shall take care of them? The Florida law says that our State TB Hospitals shall accept only residents, and a resident is defined as one who has lived in Florida one year. But you cannot let a person with TB who is spreading his germs everywhere, continue to threaten the health of others, while you try to find out where his legal residence is and get him back to his home state for treatment. So often he is hospitalized until definite plans have been made for his future care and treatment. This all takes money, time and patience.

BCG

Many people ask about BCG, a vaccine sometimes given to produce protection against tuberculosis. This vaccine is frequently given to children in foreign countries where the number of people who have this disease are many times what we have here. BCG has never been favorably considered in this country except for student nurses and medical students who show, from tuberculin tests, that they have never been in contact with much TB. Since these two groups will be in close contact with many severe cases of the disease, it is felt that every method of protection known should be used for them.



WHAT DO YOU KNOW...

ABOUT

TUBERCULOSIS?

Don't look at answers below until you have answered all seven questions.

1. What causes tuberculosis?
2. Is it possible to "catch" tuberculosis?
3. Can you inherit tuberculosis from your parents?
4. Can you have tuberculosis without feeling sick?
5. How can the doctor tell whether or not you have tuberculosis?
6. Can tuberculosis be cured?
7. Why is the tuberculosis hospital the best place to go if you have tuberculosis?

NOW...

Answers to Quiz

1. Tuberculosis is caused by a germ.
2. Tuberculosis is "catching".
3. You can't inherit tuberculosis from your parents.
4. You can have tuberculosis without feeling sick.
5. The doctor can tell if you have tuberculosis by X-rays and other tests.
6. Tuberculosis usually can be cured if found early enough and treated properly.
7. The tuberculosis hospital is the best place to go for treatment and to protect others from your germs.

The Florida Tuberculosis and Health Association

The Florida Tuberculosis and Health Association is an organization of citizens dedicated to the control and eradication of tuberculosis through an educational program. The aim is to see that all individuals and groups have effective health, welfare, and rehabilitation services. It works to obtain legislative action to meet the needs of an effective tuberculosis control program, through official agencies.

There are 67 County Tuberculosis Associations affiliated with the Florida Tuberculosis and Health Association. Activities of the state and local associations vary from year to year, depending upon changing needs and the funds provided through the annual Christmas Seal Sale, which in itself is an educational device to promote understanding of tuberculosis and its varied problems.

Florida's 1955 Christmas Seal Sale funds — \$624,790 — are being used in 1956-57 to promote a more intensive program for the early detection and treatment of tuberculosis, for helping TB patients solve their many problems, for furthering the rehabilitation of patients, for supporting medical and social research, and for keeping the people constantly aware of the changing trends of tuberculosis.

Volunteer workers in Florida are always a strong line of defense in the campaign against tuberculosis. They work year after year to insure the success of mass X-ray surveys. They participate and help carry out the TB Association's year-around educational program and its Christmas Seal Sale. The wonderful cooperation of the press, radio, television, and other mass communication media people have made possible much of the progress in the eternal fight against TB.

"In our hospitals recovering patients are being discharged earlier and allowed to continue receiving treatment on an out-patient basis. This raises many questions. Sound answers cannot be given until sufficient time has elapsed to evaluate this practice in terms of recoveries, relapses and deaths. Hospitalization must still be strongly emphasized for protection of both the community and the family. Optimism and not complacency must be applied to this period of rapid and perplexing change, and we cannot let down our guard. We must appraise new developments objectively to judge whether they are solid and lasting."

Dr. C. M. Sharp, Director
Bureau of Preventable Diseases
Florida State Board of Health

Our Older Folk

Florida beckons more and more the older citizen — those who come to retire. They sometimes have TB, too. As we grow to be older, it follows that we have more time to catch tuberculosis! Many of these elderly people will have TB in a chronic form and may prove to be sources of infection to their grandchildren and others with whom they come in contact. They may never be acutely ill, cough a great deal or run any fever — but they can spread TB germs just the same. Age is no barrier to this disease.

Tuberculosis used to be a disease primarily of young men and women. Our senior citizens now share this problem with them — the larger share.

Would You Like To Know More?

For pamphlets and other information, contact your local TB Association. There are active ones in almost every county in Florida. Or write the Florida Tuberculosis & Health Association, 235 East Monroe Street, Jacksonville 1, Florida.

The Audio-Visual Aids Library of the Florida State Board of Health is the repository for many films on tuberculosis placed there by the above association. For information concerning the availability of these, write to:

Audio-Visual Aids Library
Florida State Board of Health
P. O. Box 210
Jacksonville 1, Florida

Help Fight TB



Buy Christmas Seals

FLORIDA STATE BOARD OF HEALTH

1217 Pearl Street or P. O. Box 210

JACKSONVILLE, FLORIDA

HON. LEROY COLLINS
Governor of Florida

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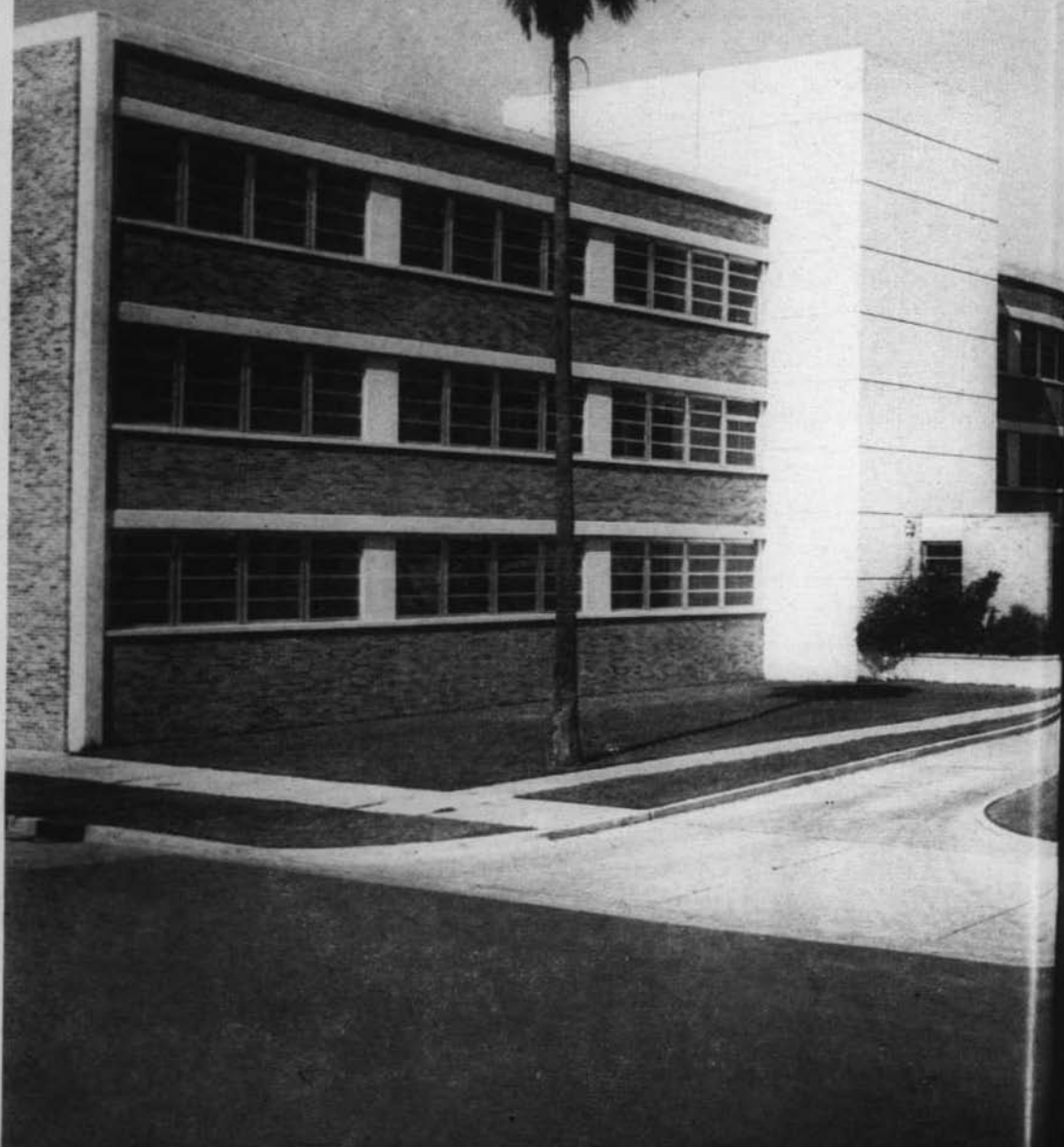
John A. Mulrennan, B.S.A.

All Counties in Florida have organized county health departments, except
St. Johns County

FLORIDA HEALTH NOTES published by Florida State Board of Health since 1892

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Florida

HEALTH NOTES



December
1956

CLEAN WATER — CLEAN AIR

Vol. 48
No. 10

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**NOT
POLLUTED!**



WATER POLLUTION

"Water, Water everywhere, Nor any drop to drink."

If mankind found itself in the plight of Samuel Taylor Coleridge's "Ancient Mariner," it would soon cease to exist. For man cannot live without water. Yet he has been careless and reckless in his use and abuse of this priceless commodity. He has been guilty of literally murdering the thing so essential to his own life — killing the living waters. Citizens of Florida have in many instances been guilty of this wanton destruction of the usefulness of the state's lakes and streams and underground waters.

How Do You Kill a Stream?

The weapon you use in killing a stream is *pollution*. What is pollution? Water is polluted when it contains substances that make it unclean or unfit for our use. Our two chief forms of pollution are *sewage* and *industrial wastes*.

Sewage includes everything that goes down the drains of a city or community and into its sewer system — the used water from toilets, bathtubs and sinks, washings from restaurants and laundries, hospitals and hotels, etc.

Industrial wastes are the acids, chemicals, oils, greases and animal and vegetable matter discharged by our factories, mills, industrial plants and the like.

What happens when sewage, industrial wastes and other forms of waste enter a stream? Nature's delicate balance of forces is destroyed. Fish and other animal life take in oxygen and give off carbon dioxide in their life-processes, just as land animals do. Plants take in carbon dioxide and give off oxygen. The system is in balance. *But when pollution enters the stream, this delicate balance is upset.*

This is what happens. The sewage is first diluted by the volume of clean water in the waterway. Then tiny bacteria in the water start to work to attack this foreign matter. They must have oxygen in order to work and this is the same oxygen fish and other water life need.

The amount of oxygen in the water determines how much pollution a stream can handle. A large, fast-moving river can purify much more material than a small, lazy stream.



FLORIDA HEALTH NOTES

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When such a large amount of pollution enters a stream that all the oxygen is used up, all life in the water must leave or die. The tiny animals and plants which fish need for food die first. Then the fish themselves disappear or their bodies float on the surface. The waters take on a greasy look and a foul odor. The living water is dead.

Florida's Water Heritage

No state is more fortunate than Florida in its water resources. There are in the state:

1. Thousands of lakes.
2. 17 first magnitude springs out of a total of 75 in the entire United States.
3. 1200 miles of coast line.
4. Unequaled ground water resources.

Nature's lavish gift of water to Florida means not only ample water supply but the means of food, power, transportation, recreation and increased industrial development. As an extra bonus, it also means the economic benefits derived from the tourist business. For next to Florida's sunshine, her sea shores, lakes, streams and springs are her greatest attractions to tourists.

Keeping It Clean

Yes, Florida's supply of water is bountiful. But unceasing labor and vigilance are necessary to keep it clean and fit for human consumption. Do you have any idea how much water you use daily? *Each person in Florida requires 131 gallons of clean water each day for domestic and commercial use.* That's a lot of water to keep clean.

To do this job we rely to a large extent on modern sewage treatment plants. The basic job of a sewage treatment plant is to remove body wastes and other polluting material from the water which has carried them through the pipes and sewers of the city. Dirty sewage water is treated at the plant before being discharged into the natural waterway.

There are two kinds of sewage treatment — primary and secondary. The primary treatment removes about 35 per cent of the pollution load of sewage water. Secondary treatment, following primary treatment, removes much more and is also, of course, more expensive. It removes about 85-95 per cent of the pollution load before it is discharged into the river or lake.

The Case Against Pollution

Pollution endangers public health — When it becomes excessive and overwhelms water treatment facilities, epidemics may follow. Even where water treatment plants can handle emergency loads, there is the ever-present danger of a breakdown.

Pollution deprives us of much pleasure and recreation — swimming, boating and fishing. Water sports are not only fun but are a big source of revenue in the state. Wildlife officials estimate sport fishing alone brings \$381,000,000 into the state each year.

Destroys commercial fishing and contaminates shellfish, thus reducing the incomes of Florida's commercial fishermen.

Keeps new industries from moving into the state—Polluted water can keep industry out because a major industry will not locate where there is not sufficient clean water available. For example:

The unsurpassed purity of ground water in the Pensacola area is largely responsible for the growth of the synthetic fiber industry there. Chemstrand Corporation and the new American Cynamid acrylic fiber plants are typical of these new plants locating in the state.

The decision of General Electric Corporation and Minneapolis Honeywell Corporation to locate plants in Pinellas County probably would not have been made if that county had not taken steps to make ample quantities of clean water available to Pinellas Peninsula. A pipe line was installed to bring water from the northern section of the county into the lower peninsula.

Threatens farmers' livelihood — Florida has countless beautiful fruit groves and lush farm areas which yield several crops a year. Farmers and grove owners use more water than all the other users combined.



IT CAN BE BEAUTIFUL

Would you have guessed this was a sewage treatment plant? A building to grace any landscape is this modern, efficient and highly decorative sewage treatment plant just off the University of Miami campus at Coral Gables, Florida.

This water is used for irrigation and for watering stock. It *must* be relatively clean.

Unquestionably, Florida's prosperity is closely related to the purity of her lakes and streams. Polluted water can take money out of the pockets, directly or indirectly, of all her citizens.

How Do We Stand Today?

In the past many of Florida's surface and underground waters were grossly polluted by municipal and industrial wastes. The danger of the situation was written up in the October, 1947 issue of *Florida Health Notes*. In that issue David B. Lee, Director of the Bureau of Sanitary Engineering, Florida State Board of Health, stated that stream pollution was "A State and National Plague." He further wrote,

"Today, stream pollution has become a health, economic and welfare hazard. Our public drinking water supplies are becoming more grossly polluted, our recreation facilities are being diminished and our shellfish-growing areas are being eliminated.

Your State Board of Health is embarking upon a stream pollution abatement program, which, although limited, is to the fullest extent of our present resources."

This issue of *Florida Health Notes* is happy to say that an intelligent program of pollution abatement has kept the problem within bounds. In 1940 adequate sewage treatment was provided for wastes from only 9.7 per cent of our sewered population. In 1956, however, 77 per cent of the domestic sewage was adequately treated before discharge.

In 1941 the Florida State Board of Health adopted a firm "No New Pollution in Streams" policy. Under that policy all new sewerage or industrial systems are required to provide adequate treatment to protect the streams into which they discharge. Old problems must be corrected before expansion can be undertaken. This policy has paid off richly as you can see by the above mentioned rise and the great improvement in municipal sewerage systems.

The soundness of the policy can be summed up in a few words. *Florida has no severe pollution problems at present that cannot be corrected.* But if the scars get too deep, they will be difficult to remove.

Progress Presents Problems

Florida has made great strides in controlling the pollution of her lakes and streams. However, she has no time to rest on her laurels. New residents are constantly pouring into the state and the tremendous growth of population, together with numerous new industries being established here, keep the problems an ever-present one.

Only untiring vigilance and long-range planning can keep Florida from making the mistakes many of our northern neighbors are now striving hard to rectify.



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BEFORE — *Such conditions as this existed in Panama City a few years ago. The top picture was taken in 1947 and shows raw sewage from a residential area flowing into a bayou which is a few yards beyond picture.*

AFTER — *Here is a recent picture of Panama City's modern, efficient and handsome sewage treatment plant of which the city is justly proud.*



1955

FLORIDA STATE BOARD OF HEALTH

DATE COLLECTED _____ COUNTY MANATEE COLLECTOR KRETZSCHMAR
 OWNER OF SUPPLY _____ ADDRESS _____
 SEND REPORT TO MANATEE COUNTY HEALTH DEPARTMENT ADDRESS _____
 1. TYPE OF SUPPLY PUBLIC ☐ PRIVATE ☐ BOTTLED ☐ POOL ☐ BEACH ☐ OTHER _____
 2. IF PUBLIC FROM CITY ☐ SUBDIVISION ☐ HOTEL ☐ RESTAURANT ☐ TOURIST COURT ☐ DAIRY ☐ SCHOOL ☐ INSTITUTION ☐ OTHER _____
 3. TYPE OF SAMPLE ROUTINE MONTHLY ☐ COMMON CARRIER ☐ REPEAT SAMPLE ☐
 STREAM OR LAKE POLLUTION SURVEY ☒

DATE RECD _____ REPORTED _____ Lab. Jax ☐ Miami ☐ Tampa ☐ Tallahassee ☐ Pensacola ☐ Orlando ☐
 Day ☐ St. Pete ☐ W. Palm B. ☐

LAB. NUMBER	COLLECTOR'S NO.	SAMPLING POINT	CHLOR. RESID.	pH	LB. 48 HRS.	B.G. 48 HRS.	AVERAGE MPN*	INTERPRETATION SATIS	Un-Satis
	STA. M-16	MANATEE RIVER, OFF WARE'S CREEK					130,000	X	
		(UNSATISFACTORY FOR BATHING PURPOSES)							

1956

FLORIDA STATE BOARD OF HEALTH

DATE COLLECTED _____ COUNTY MANATEE COLLECTOR KELSO AND KRETZSCHMAR
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LAB. NUMBER	COLLECTOR'S NO.	SAMPLING POINT	CHLOR. RESID.	pH	LB. 48 HRS.	B.G. 48 HRS.	AVERAGE MPN*	INTERPRETATION SATIS	Un-Satis
	STA. M-16	MANATEE RIVER, OFF WARE'S CREEK					29	X	
		(EXCELLENT QUALITY BATHING WATERS)							

THIS MADE IT ALL POSSIBLE



If it were not for the fine, modern sewage treatment plant at Bradenton, pictured on the left, these young swimmers would not be skimming so merrily over the water.

The reports shown under the skiers tell the story. In 1955 the water was so polluted by coliform bacteria (organisms commonly found in human and animal sewage) that it was reported "unsatisfactory for bathing purposes". After the construction of the sewage treatment plant, the M. P. N. report (Most Probable Number of Coliform bacteria per 100 cc of water) dropped dramatically from 130,000 in 1955 to 29 in 1956. Now the river at this location is safe for swimming and water sports.

What's A Sewage Treatment Plant?

There are two kinds of sewage treatment plants: *primary* and *secondary*.

Primary Treatment

1. Sewage water enters plant and passes through a *screen* which catches large objects, such as sticks, rags, etc.
2. Next the water flows slowly through a *grit chamber* and sand, gravel and heavy objects settle.
3. Then the water runs into a *large settling tank*. Here it stands for a considerable time and solids settle to the bottom as "sludge" or rises to the top as "scum." The water between these two layers is then drained off and may be discharged to a waterway in this condition. Waste matter which has been removed from the water is made harmless by a *sludge digestion tank* and *drying beds*. This dried waste matter may then be used as land fill or as fertilizer.

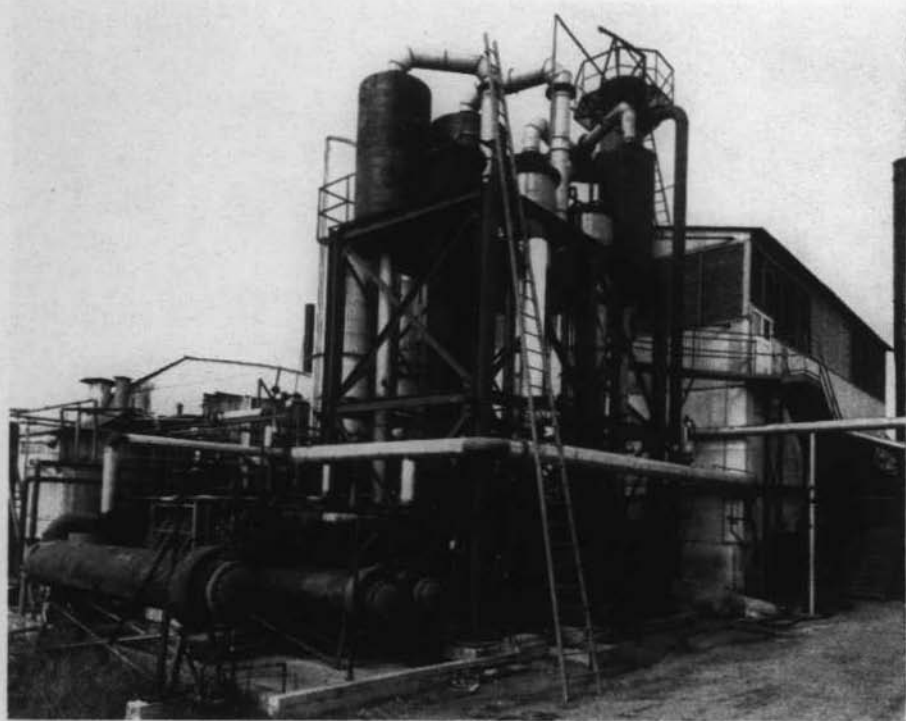
Secondary Treatment

If more treatment is needed, the water from the first settling tank goes into a *trickling filter*. Here the water trickles through a bed (about 6 feet deep) of coarse stones, and the bacteria on the stones work on the sewage. Then it goes into still another *settling tank* and is allowed to stand so remaining solids can settle. In some instances, *chlorine gas* may be added as a safeguard.

About 35 per cent of the pollution load is removed by primary treatment and 85 per cent or more by secondary treatment.

There are now 272 sewerage systems in Florida. A recent study has been made to see what kind of a job they are doing and what condition they are in. Here are the results:

1. 63 systems, serving 390,000 people, need new treatment plants.
2. 15 systems, serving 200,000 people, need more treatment than they are now receiving.
3. 16 systems have been or are about to be outgrown.
4. 15 systems, serving 20,000 people, need better operation of existing facilities.
5. 172 systems, serving almost 1,000,000 people, *have adequate sewage treatment facilities.*



INDUSTRY HELPS SOLVE OWN POLLUTION PROBLEMS —
This picture and the one on the opposite page shows two types of industry treating waste as a part of processing. Above is a citrus plant in Plymouth, Florida, giving a view of the evaporator which converts peel press liquor into molasses.

By far the bulk of the 172 treatment plants which are giving good service have been built since 1950. Even with the unprecedented population growth, if our construction of sewage treatment plants continues at the present rate, Florida will have eliminated inadequate sewage disposal within a few years.

Industrial Wastes

Florida's industries have a good "progress report" in reducing pollution. Much of this improvement has been the result of the "house cleaning" policy of industry itself and has taken place within the plant.

Take the case of citrus plants. In 1941 many citrus plants were discharging very strong peel press liquor (a by-product of the manufacture of citrus cowfeed) into the streams, creating a bad pollution problem. Today, most of them evaporate this liquor into molasses, which is also used to feed stock. Thus they not only help eliminate pollution but make money in the process.



Phosphate plant at Bartow, Florida. Water is being recovered (because of its chemical content) for reuse.

In 1941, paper mills were losing a sizable part of the costly chemicals they use to make wood pulp. These chemicals were escaping with their wastes into the streams and causing severe pollution. Today, all of the mills evaporate their strong waste to recover the chemicals for re-use and only very dilute wastes are lost to the streams. Even these dilute wastes can be treated and several mills in Florida are reducing the organic strength of these wastes before they are released to streams. Again, not only is pollution reduced but it's good business, too.

Big industries have been by no means the only offenders. Troublesome problems arise when small laundries, restaurants, slaughter houses or milk plants are installed beyond the reach of public sewerage systems. To solve these problems, literally hundreds of small waste treatment plants have been built in recent years to handle waste from such establishments and more are being constructed daily.

Looking Ahead

Yes, progress has been made and much can be pointed to with pride but a great deal is yet to be done.

Septic tank problem — What about the people *not* served by sewage disposal treatment plants? Only 43.8 per cent of the state's total population is served by public sewerage systems. Over two million people in the state are being served by individual septic tanks, thus justifying the term "The Septic Tank State" which is often applied to Florida.

There is a great need to expand present sewerage systems and to construct entirely new systems to take care of people in so-called "fringe" or subdivision areas (where most septic tanks are). All of our subdivisions where families are living on city-sized lots should be served by public sewerage systems. Septic tanks are uneconomic, unwise and unwholesome in areas where dwellings are built close together.

Bad apples — There are always a few bad apples in the barrel. Some industries and some municipalities must be *forced* to construct adequate waste facilities. For this "reluctant minority," constant pressure must be brought to bear and a constant check and study made of their problems.

A complication of the industrial problem is the fact that they are subject to occasional upsets or shut-downs which may cause waste process materials to be discharged into streams. To control this situation, a regulatory agency (such as the State Board of Health) should be in such close contact with industry that they would be informed of such occurrences and could keep careful check on the streams into which such increased wastes will pour. Unfortunately, this requires more manpower than is now available and would require even more as new industries locate in the state.

Keeping check on existing plants — As pointed out before, a survey shows that many sewerage systems need new treatment plants, have outgrown their plants and are in need of better operating facilities. For the protection of the people they serve a careful check will have to be kept and endeavors made to see that conditions are corrected as soon as possible.

To sum up — Our continuing problem is simply this. The bigger our cities grow, the more people we have and the more industries we have, the more clean water we need. And yet the bigger our cities and the more industries we have, the more pollution we have. Our problem grows as we grow. This is a basic truth.

However, Florida has made great strides in combating and controlling its water pollution problem since 1941. This has been largely the result of the demands of the people for unpolluted lakes and streams and safe water. Construction of sewage treatment plants continues at a rate that taxes the resources of the State Board of Health engineering manpower to keep abreast of them.

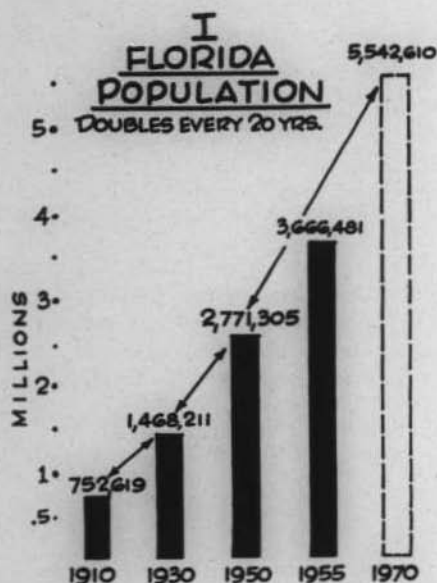
As long as the people of Florida continue to demand satisfactory waste treatment facilities, there should be no slackening in the control of the water pollution problem. An aroused and alert population will see that our state's streams and lakes are as safe as they are beautiful.



PRIVATELY OWNED SEWAGE TREATMENT PLANT. *This sewage plant located in Miami area serves 700 unit motel.*

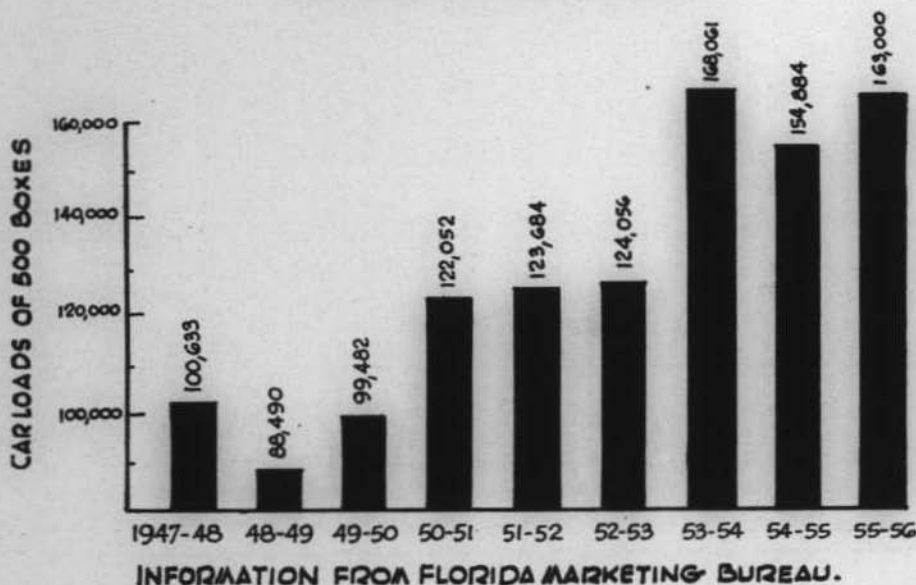
"Little drops of water and little grains of sand, plus sewage, can make a filthy ocean and a germ laden land." — J. E. Mosher, Sanitarian, Osceola County.

G R O W I N G , G R O W I N G ,



The sky's the limit. Reflecting Florida's population and industrial growth, these charts keep steadily shooting skyward.

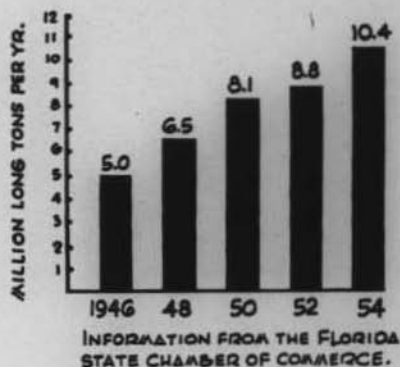
FLORIDA CITRUS VOLUME CANNED OR PROCESSED



G R O W I N G!

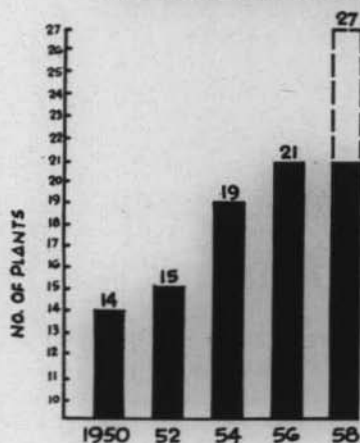
PHOSPHATE ROCK MINING IN FLORIDA

Welcome though they are, more homes and more industries mean more problems of air and water pollution. Control and prevention are the answer.

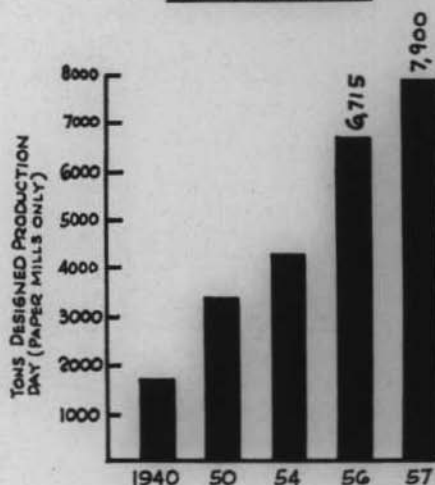


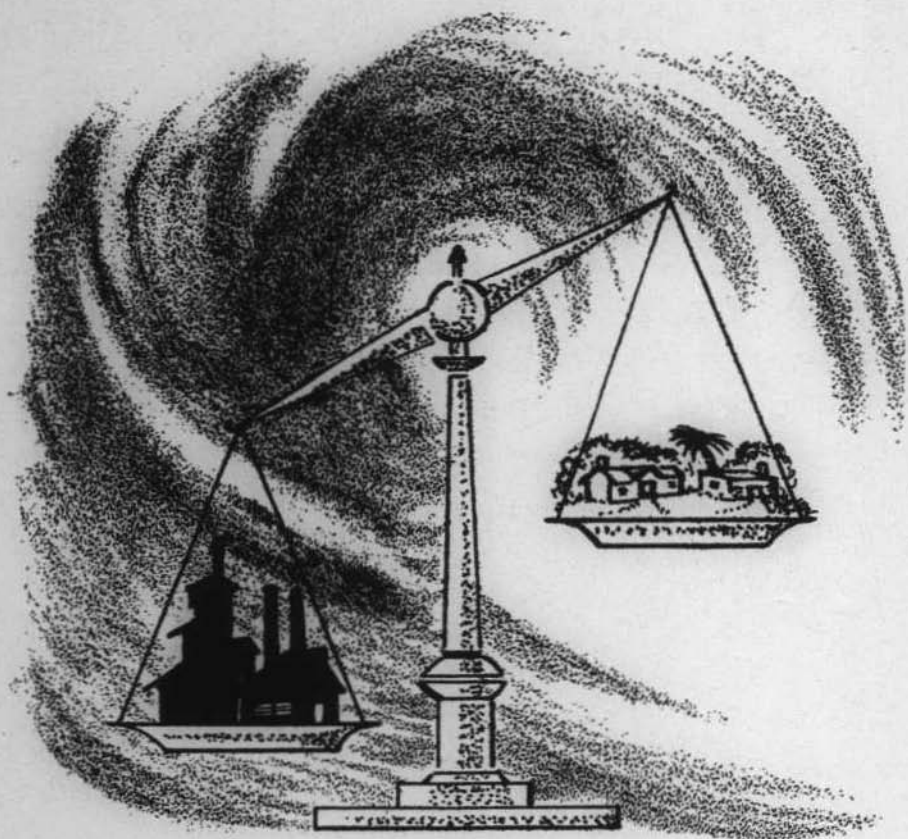
CHEMICAL PROCESSING PLANTS IN FLORIDA

INCLUDES: SYNTHETIC FIBER, PHOSPHATE PROCESSING,
PINE TAR EXTRACTION, METAL PLATING,
OIL & ASPHALT REFINING & AMMONIA SYNTHESIS.



PULP PRODUCTION IN FLORIDA





**PROGRESS TILTS THE SCALE TOWARD
NEW AIR POLLUTION PROBLEMS**

But

**PREVENTIVE MEASURES ROLL BACK
THE SMOKE SCREEN AND PROTECTS
HOMES AND LIVES**

AIR POLLUTION

Air pollution is not a new problem. It has been with us as long as forest fires, sandstorms and pollen producing plants have plagued human beings.

In 1257 Queen Eleanor, wife of Henry III of England, moved from Nottingham to Tutbury Castle to avoid "the unendurable smoke from sea cole". In 1273 Parliament enacted legislation prohibiting the use of "sea cole" in London because of the "smoke and unsavory vapors therefrom." Smoke is still a formidable problem in England.

Now men tend to live more and more in large cities. The smoke of their fires and the discharge of their automobiles combine with smoke from industrial coal burning and dusts and gases from industrial processes to give us a more concentrated air pollution. As more and more industries move into Florida, the state is becoming increasingly aware of the problem of air pollution. This pollution disturbs our comfort, distresses the housewife, obstructs our vision, shuts out the ultra-violet light from the sun and can injure our health — even to the point of causing death as it did in Donora, Pennsylvania, London, England and the Meuse Valley in Belgium. (See "What Can Happen").

Today we cannot hope for completely pure air. We never had it in the first place. What we are shooting for is "tolerable" air. Tolerable air is that which has such small amounts of impurities that they do not interfere with enjoyment of life and property. This air must be sufficiently clean so that it will not harm our health or stunt the growth of our flowers and plants or increase our cleaning bills.

Florida's Fresh Air

Clean air is a matter of special interest to the people of Florida. Besides our own comfort and protection, many tourists who visit the state are looking not only for sunshine but relief from the smoke, dust and soot of the North. Therefore, we cannot tolerate any diminishing of the brightness of Florida sunshine or injury to the fresh green beauty of our vegetation which so delights the eyes of our neighbors escaping from their snow-bound homes.

Air pollution is sometimes affected by whether or not the land is mountainous or level. The City of Los Angeles lies in a high bowl ringed in with mountains. Donora is situated in a deep valley with mountains on either side. The hills of Pittsburgh help to hold the smoke which annoys the residents of that city. Here in Florida we are blessed with level terrain and wide open spaces. Constant breezes assist in dispersing and diluting pollution. Nature is on our side when it comes to helping keep down air pollution. But she needs the help of control measures and man-made devices.

The Florida State Board of Health is charged with the responsibility of keeping the state's air clean. At its 1955 session, the Florida State Legislature revised the Public Health Act. One of the new requirements was that the State Board of Health should "Adopt, promulgate, repeal and amend rules and regulations consistent with law regulating:

7. The pollution of the air where created on private property, in public places, by industrial waste disposal or sewage disposal or in any place or manner whatsoever."

These regulations have been prepared by the Division of Industrial Hygiene and, as this is written, are being checked by the legal counsel of the State Board of Health.

Collecting and Testing Air

Personnel of the Division of Industrial Hygiene of the State Board of Health work with industry in the state to keep down air pollution. They visit a plant or factory at the request of management or because of complaints received from residents of the area or in the line of routine duty.

Air samples are taken at the plant by means of an impinger. An impinger is an air sampling device whereby air is drawn through a bottle containing a mixture of water and such collecting media as dilute nitric acid or sodium hydroxide (media depending upon the substances being collected). Two types of impingers are used, as shown by pictures, one



Dr. John M. McDonald, Director of the Division of Industrial Hygiene, changing film on dust collector atop the Laboratory building of the State Board of Health. Films are sent to Atomic Energy Commission laboratory for analysis.



Roe B. Hull, Industrial Hygiene Division Chemist, changing a filter on a High Volume Air Sampler which is on the roof of the State Board of Health.

This sampler sucks air in at a rate of 40 cubic feet a minute. Its chief purpose is to find out how much radioactive dust is in the air. Reports are sent to the U. S. Public Health Service.

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a hand impinger which is worked by turning a crank and the other a larger electrically powered one.

Back in the laboratory, the air sample is analyzed by a long rather complicated procedure. If it is found to have high concentration of such poisonous gases as hydrogen sulfide, sulfur dioxide or fluorine, management of the industry in question is so advised and steps are taken to correct the situation. The division consults with management and together they work out the best methods of correction and "air cleaning".

Samples of air are also taken *inside* industrial plants. This is done because another duty of the Division of Industrial Hygiene is to protect the worker against the hazards of his job and to keep him from contracting a disease as a direct result of the work he is doing. There are many kinds of health hazards in industry. Consider, for example, the worker who is helping make storage batteries or lead paints and contracts lead

poisoning by breathing lead dust and fumes. Or the operator of a gasoline engine who breathes too much carbon monoxide.

Florida Case Histories

Jacksonville—One fine January morning several years ago the ladies of Jacksonville were tripping along Adams, Julia and Forsyth Streets on their way to stores and offices of the downtown business section. To their astonishment and distress their nylon stockings suddenly began to develop runs in all directions.

Their cry of distress was answered by the Division of Industrial Hygiene and samples were secured of the damaged hosiery. Our chemist discovered that the offending agent was sulfuric acid. Where could it have come from?

A careful check showed that it was a clear, quiet morning with only the faintest air movement. There was a fine deposit of soot on the pavement. The conclusion was that some nearby boiler was burning Bunker C fuel oil which contains sulfur. During the early morning hours the operator of this boiler had blown out the tubes with steam to get rid of soot. The burning sulfur had formed sulfur dioxide which was absorbed by the soot; the soot drifted through the air and came to rest on the sidewalks.

As the ladies stepped along the pavement, their feet stirred up the acid-bearing soot and it settled on their nylon hose with the aforementioned disastrous results. Later it was found that some of the soot had found its way into a few stores and damaged nylon hosiery on counter displays. The incident caused no damage to health but much mental anguish and some economic loss.

Tampa—The white paint on houses on the shore of Tampa Bay began to turn brown and black. Blame was laid on the smoke from an industrial plant on the east side of the bay. Since hydrogen sulfide seemed to be the most likely offender, smoke from the plant was tested for this gas. The results were negative and the industrial plant was eliminated as the culprit.

Further search showed that the hydrogen sulfide was arising from decomposition of sewage in Tampa Bay. The City of Tampa now has a sewage disposal plant and the condition has been corrected.

Polk County

There are many and varied industries in Florida with many and varied problems of air pollution to combat. The most extensive pollution problem at present in the state is in Polk County.

Phosphate rock has been mined in Polk County for many years. Since 1951, plants have been established to treat the phosphate with sulfuric acid in order to make it suitable for plant food. There are now six plants manufacturing their own sulfuric acid and treating rock from their own mines in the Bartow-Mulberry area. In addition, there is one small chamber-process sulfuric acid plant and three phosphorus furnaces in the same area.

The process of manufacturing sulfuric acid in most plants is very efficient. However, a certain amount of sulfur dioxide (4.25% to 0.40%)



Small, hand-powered air sampling apparatus (impinger) being used to take a sample of chimney smoke.

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is discharged with smoke and fumes from the stack. Early in the plants' operation, larger quantities must have been given off for most of the pine trees within a half mile radius have been killed.

Florida phosphate rock contains 3.5% to 4% of fluorine and in the manufacturing processes in these plants a quantity of fluorine is driven off. Some of the fluorine is recovered in scrubbing towers and the Bureau of Sanitary Engineering has been working with the phosphate companies for some years in trying to control fluoride pollution of water in this area.

The first complaints about air pollution in Polk County arose in the summer of 1954. Investigations were made and the damage to pine trees was very evident. Consultations were held with heads of the plants as it was apparent that air pollution was definitely present.

The first tests were made for the purpose of sampling for sulfur dioxide at various locations around the plants. In some cases small quantities of sulfur dioxide were found. Then it was decided to extend the tests to sample for fluorine that might be discharged by the plants. Weather conditions and strikes hampered the work.

However, the plan at present is to secure air samples directly from the stacks of all the phosphate plants. The analyzing of these samples is a lengthy process and is still going on. Also, analyses are being made on vegetation, including the leaves of citrus trees, Spanish moss and some vegetables. In cooperation with the Division of Veterinary Public Health, checks are being made on animal health, particularly cattle.

This latter investigation is in line with the 1955 Legislature's resolution naming a committee from both houses to study the effect of industrial fumes on agriculture and cattle. The committee has had several meetings and is to report its findings and recommendations to the 1957 session of the Legislature.

The phosphate plants are endeavoring to help solve their own problems on pollution. In October of this year an elaborate new system for detection and prevention of air and stream pollution from phosphate industrial gases was unveiled by the American Cyanamid Company. This company operates mines in Hillsborough and Polk Counties.

Results of the company's tests will be made available to the State Board of Health and the University of Florida project studying air pollution. If necessary, gardens and citrus groves will also be observed and tested for effects of fumes and dust.



Collecting air and dust sample from chimney with the large electric-powered impinger.

The State Board of Health's study of conditions in Polk County is a continuing one and will probably be completed early in 1957.

Industrial Pollution

Smoke — The smoke from factories or boilers can sometimes be controlled by more careful firing. In some cases it is necessary to enlarge the fire box so that the combustion is complete. This is especially true where sawdust is burned. Another method is to blow air and steam into the space above the fire. This helps to complete combustion. Burning of trash also produces much less smoke if compressed air is fed into the bottom of the pile.

Dust — Some industrial plants give off a good deal of dust. This is especially true where sand is used in large quantities. Sometimes this can be controlled by pulling the air through cotton bags. Sometimes filters are used; in other cases the air is brought through a dust trap called a cyclone.

Another method that is sometimes used is to pass the air through the tower in which there are a number of nozzles discharging water in a very fine spray under high pressure. Still another method used to "keep down the dust" is to pass the dusty air through an electrostatic precipitator. By means of an electrostatic charge the dust is attracted to metal plates. The plates have to be cleaned at regular intervals.

All these methods are more or less expensive. Sometimes, however, it is worthwhile to spend the money necessary to recover the dust, especially if the dust contains a valuable metal. Recovery of these metals helps to pay the cost of the dust control system — at least in part.

Gases — When substances like fluorine are given off in the form of a gas the recovery is considerably more difficult. The usual method is to pass the gas through large towers which are known as "scrubbing" towers. There are several rings of nozzles projecting into the towers. Water sprays may be used and sometimes sprays of water containing lime are forced through the nozzles at high speed.

There are many other methods for trapping gases. Sometimes they are passed through towers which are loosely packed with brick. The gas is brought into the bottom of the tower and water, or some other liquid, is sprayed in from the top. A great deal of study is being given to this work by industrial management and by research institutions in universities.

Another method of avoiding air pollution by gas is to discharge the offending gases through a very high stack, perhaps 300 feet high. If the gases are hot, they rise rapidly and by the time they later reach the ground they are so diluted that they do not cause annoyance or injury.

Odors — Control of odors is often a difficult procedure. Sometimes the odor-bearing air can be drawn through a fire which breaks up the bad-smelling gas into relatively harmless water and carbon dioxide. This plan will not work if there is any sulfur in the gas because burning would cause sulfur dioxide to form. Sulfur dioxide can be very irritating. In such cases a water spray containing ammonia or some similar substance might be used to neutralize the sulfur dioxide.

Pollen

The commonest source of hay fever-producing pollen in Florida is ragweed. While most of the ragweed in the State belongs to the "dwarf" variety, this dwarf often grows over six feet high. It is found mainly in places where the top soil has been disturbed by man. Unfortunately for the hayfever victims in the state, the ragweed pollination season in Florida is longer than in other states.

Ragweed does not begin to give off pollen until the flowers have been formed. If the plants are cut down two or three times during the pollinating season they will not grow large enough to form flowers. This method of control has been tried in various parts of the United States with good results.

Another method is to spray the ragweed plants with some chemical such as 2-4-D. This must be done before the flowers form. It may need to be repeated once during the growing season.

Looking Ahead

In general it can be said that while a good deal of progress has been made in the reduction of air pollution by industry, there are still many conditions where more study is needed. The Federal Government has given the U. S. Public Health Service five million dollars a year over the next five years to be spent in research into the control of air pollution. Their findings will benefit all.

The personnel of the Industrial Hygiene Division of the State Board of Health is small, which limits its activities. At present there is the division head, two chemists and a secretary. It is hoped that an air pollution engineer can be secured in the near future.

The State Board of Health will continue to keep a careful check on air pollution in the state. They are going to make every effort to keep Florida's air as clean and pure as is possible.

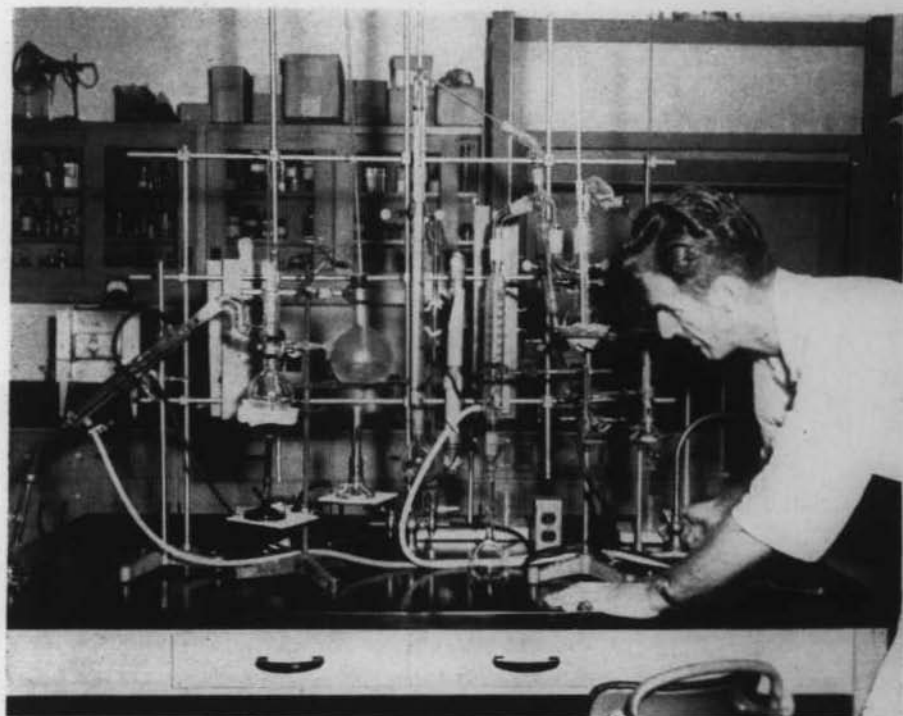
What CAN Happen

Following are four dramatic episodes of what *can* happen and what has happened in cases of air pollution. These tragic incidents focused the attention of people throughout the world to the danger of sudden death from the air.

Donora, Pa.

On Wednesday, October 27, 1948, a heavy smog settled down over the area surrounding Donora, Pennsylvania. Residents commented on the density of the smog and the fact that streamers of carbon appeared to hang motionless in the air. It was so hard to see that even natives of the area became lost.

The smog continued through Thursday and caused much comment but no alarm. On Friday, however, a marked increase in illness began to take place in the area. By Friday evening the physicians' telephone exchange was flooded with calls for medical aid and the doctors were making calls unceasingly to care for their patients. The fire department and Red Cross were called in to help.



Chemist Hull in the process of testing for amount of fluoride in air samples.

Early Saturday morning the first death occurred during the smog. More followed in quick succession during the day and by nightfall people realized that sudden death had struck them. By 11:30 that night 17 persons were dead, followed by two on Sunday and another who became ill during the smog and died a week later. A total of 20 persons dead to be blamed on the smog.

Rain came Sunday afternoon to clear away the smog. But hundreds were still ill and residents were stunned at the number of deaths that had occurred during the past 36 hours. Emergency aid moved in to help the stricken town.

Subsequent investigations brought to light the fact that the majority of people who *died* were in the age group of 52-84 and had a history of chronic disease or respiratory ailments. Or the persons who became *ill* over half were in the older age group and had suffered from such diseases as asthma, bronchitis or heart conditions. A large number of domestic animals, particularly dogs, were also affected, with a high percentage of deaths.

London, England

On December 5, 1952 record fog settled down over London blanket-ing the city in a man-made midnight that lasted until December 9. Because of the absence of wind or air movement and the low temperature,

smoke, sulfur oxides and other air contaminants increased to concentrations much above those normal for the winter season.

Immediately after the five days of heavy smoke-filled fog, health authorities reported a sharp increase in deaths, as great as that during the worst week of the last cholera epidemic in London. Analysis of the deaths registered showed that the extremes of life (infants aged 4 through 52 weeks and persons over 55) were more affected than the middle years group. The increase in deaths was associated almost entirely with disorders of the respiratory or circulatory systems.

Poza Rica, Mexico

On November 24, 1950, a breakdown in the operation of a sulfur-removal plant occurred at Poza Rica, Mexico, a city of 22,000 persons. The breakdown lasted only 20 minutes, from 4:50 A. M. to 5:10 A. M. In that brief time, however, the high concentration of hydrogen sulfide released into the air, together with atmospheric conditions (low-altitude temperatures inversion, little wind movement and pronounced fog) caused the death of 22 persons and hospitalization of 320. Of those who died, nine were under 13 years of age, 10 between the ages of 14-35 and three between 36-50.

Meuse Valley, Belgium

Between December 1 and 5, 1930, a heavy fog covered a large part of an industrial area located in the Meuse Valley, Belgium. Several thousand people became ill and several hundred were severely attacked with respiratory symptoms. In a period of two days (December 4 and 5) 63 persons died after only a few hours of illness. Many cattle had to be slaughtered. On December 6 the fog disappeared.

Investigations showed that most of those who died were elderly and, in many cases, already suffering from cardiac and pulmonary disorders. Chemists found 30 substances polluting the atmosphere but the chief offenders seemed to be sulfur dioxide and hydrofluoric acid.

In The Air

Here are some of the things which pollute the air in Florida:

1. Dust storms
2. Pollen
3. Smoke
4. Hydrogen sulfide
5. Sulfur dioxide
6. Fluorine compounds
7. Exhaust from automobiles, trucks, locomotives, buses, etc.
8. Fumes and smoke from open burning of trash, automobile bodies and rubbish.
9. Fumes and gases which produce offensive odors such as those from paper mills, rendering plants, paint spraying, etc.
10. Industrial dust from cement plants, phosphate, fertilizer, etc.

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